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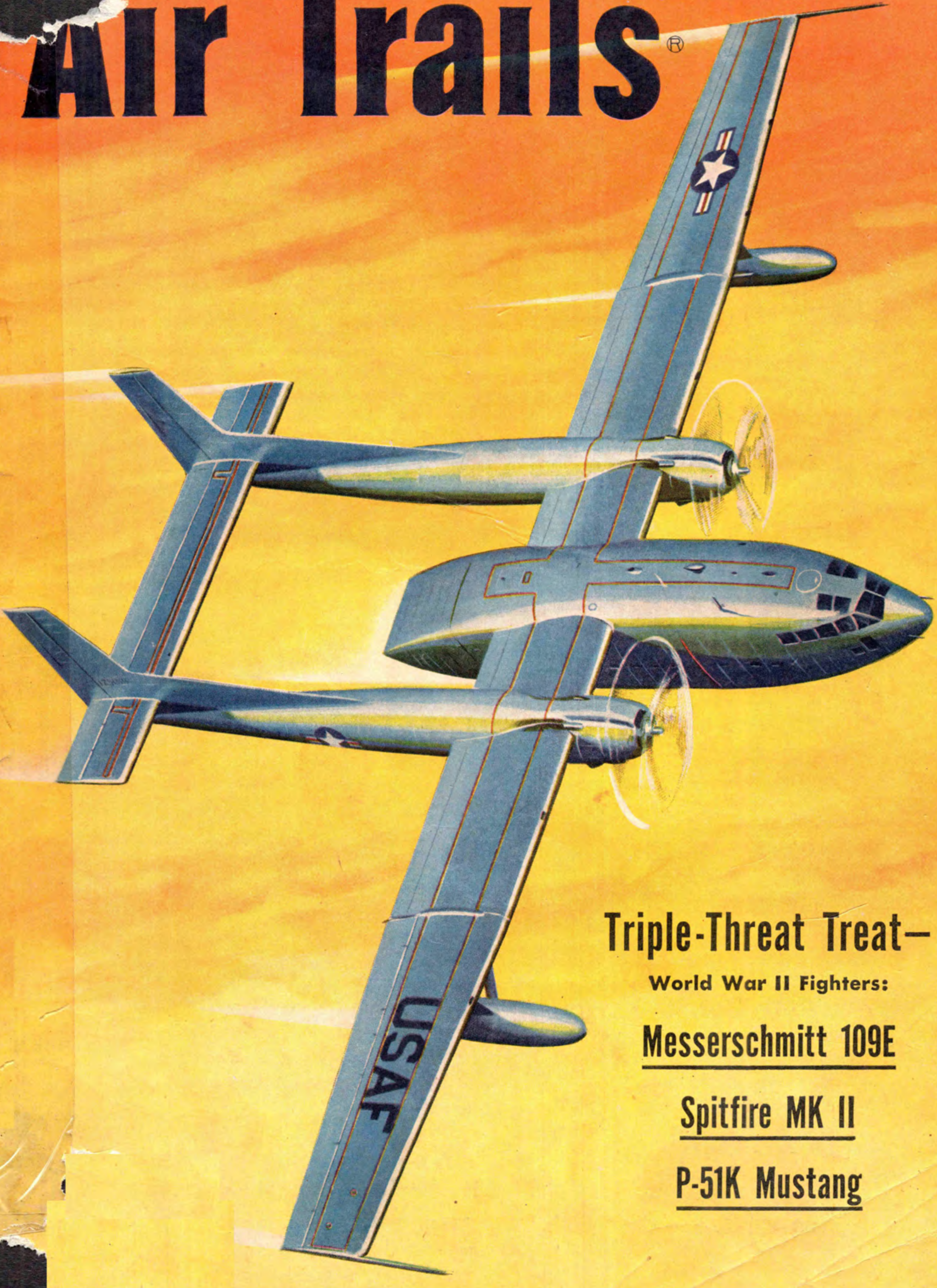

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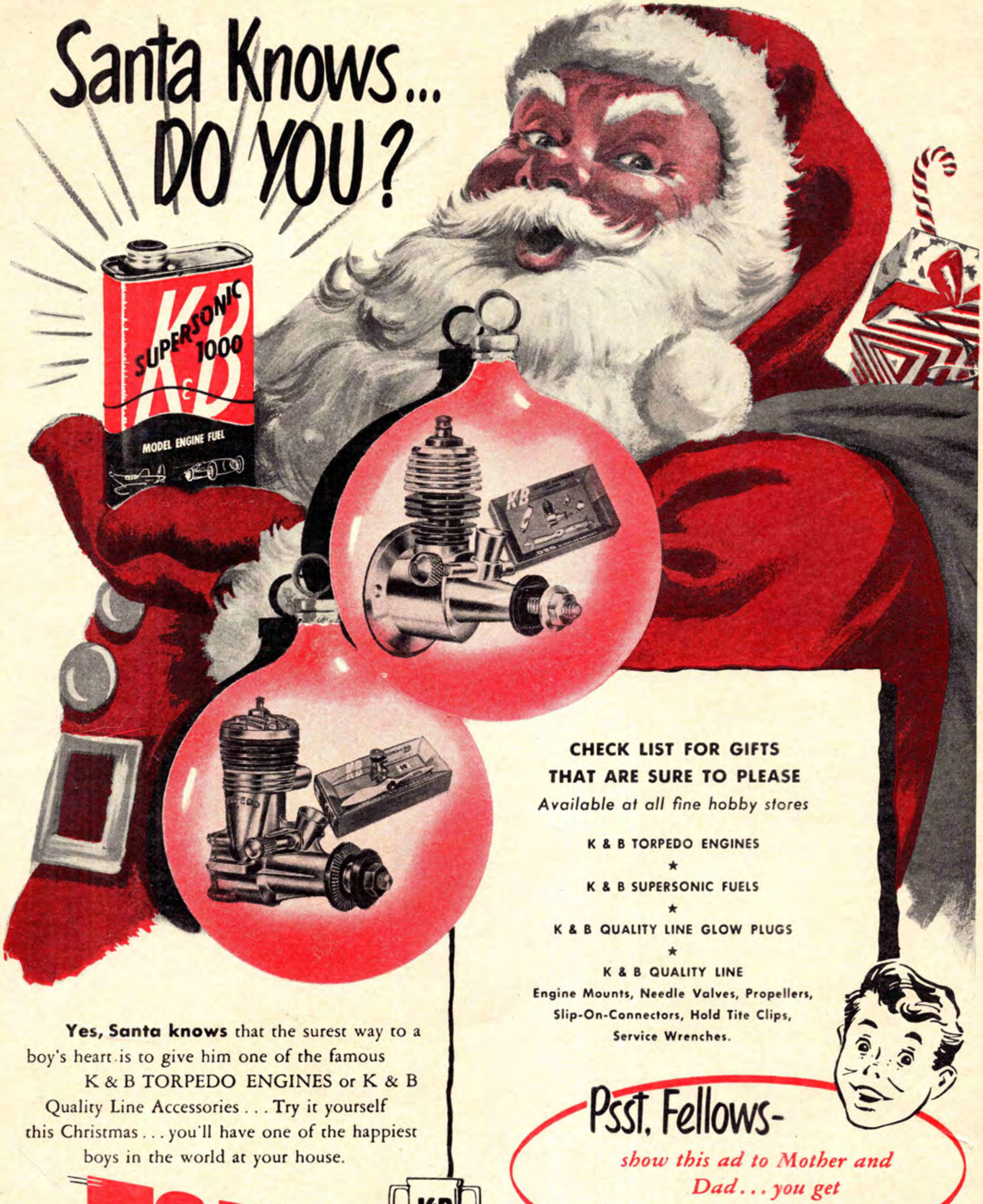

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December, 1952 • Vol. 39, No. 3

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FOR THE READER

CHRISTMAS GIFT SECTION 11
AIRMEN OF VISION 18
CIVIL AIR PATROL CADET 20
AIR NOTES 22
WING-DING IN DETROIT 25
THE WORLD A-WING 28
NAVY'S NAN 30
AIR PROGRESS: THE JUNKERS STORY 32
—DOUGLAS ROLFE
YAK-15 3-VIEW 34
SIPA 200 3-VIEW 35
TRIPLE-THREAT TREAT FOR SCALE 36
FANS: NORTH AMERICAN P-51
MUSTANG, VICKERS SUPERMARINE
SPITFIRE, MESSERSCHMITT 109E
LIGHTNING—PAUL E. DEL GATTO 42
LETHAL LUCY—LEON SHULMAN 44
PLYMOUTH'S 6th INTERNATIONALS 48
DOPE CAN—THE DOPESTER 58
R/C ROUNDUP—HOWARD G. McENTEE 60
JET FLYING SCALE SIPA 200 62
CONTEST CALENDAR 63
U. S. AIRCRAFT DESIGNATION SYSTEM 63
WESTERN ROUNDUP—DICK EVERETT 64
"AT" FORUM 66
GRUMMAN F9F-2 PANTHER 69
SKETCHBOOK—DRAWINGS BY THOMAS 70
FOREIGN NEWS NOTES 74
NORTH AMERICAN FJ-1 FURY 75
NORTH AMERICAN AJ-1 SAVAGE 79
BELLCRANK FOR SPEED MODELS 81
—HAROLD R. STEVENSON
RUSSIAN TYPE 150 3-VIEW 83

FROM THE READER

No Newsstands in Korea . . . I am sending my order for my issue of "Air Progress." While I'm at it, I'd like to commend you on an excellent magazine. I have been reading Air Trails for several years and I have all my copies.

Now I'm with the First Marines in Korea. Of course there are no corner newsstands around here but my girl sends my Air Trails each month. Just the other day I received the September copy and I read the letter from Mr. K. D. Boyer about the increased cost of AT. I'll go right along with him on that. It's well worth the 35 cents.

I am especially interested in your plans for U/C stunt and scale. You have the best mag on the market.

Cpl. Byron L. Vandiner, Korea

More Conversion to Jetex . . . In your magazine a while back, I read an article on conversion of an A-J Hornet to Jetex power. I tried this and found it satisfactory. I got to thinking why not try other models, so a few days later I went to our hobby shop here in town and looked at some of their ready-to-fly gliders. Ended up buying a Testors Go-High 25c model. The first thing I did was find the best location for my Jetex 50 engine. I found that with the wings pushed completely forward the point of balance was from a fourth to a half inch behind the pilot's head on the model, this depending on the model used. I placed my Jetex 50 engine almost in the center of the point of balance. I glued the Jetex mount down and let it set for half an hour, then I wrapped some thread around the mount and through the wing mount. My model flew very well and turned in many flights.

James Ward, Ukiah, Calif.

Helpful Air Scouts . . . I enjoyed your article entitled "Young Eyes Can Guard the Skys." The Medora Ground Observer Corps has sponsored the Medora Troop of Air Scouts almost from the time it was organized and have found them very helpful indeed.

M. F. Dodge, Supervisor,
Ground Observer Corps, Medora, Ill.

Lone Texas Wolf . . . I am an avid model builder although there is a distance of some 30 miles between me and the nearest well-equipped model shop.

So I want to thank you for putting out such a swell model magazine to help the poor, downtrodden "lone wolf" model builder keep abreast of the latest developments in our hobby.

Don Ward, Sidney, Tex.

And Latest Trends . . . For the past several years I have been reading Air Trails and I would like to commend you on its consistent progress. It has always been my favorite model magazine. Its complete coverage of model events keeps me and many, many others in touch with the latest trends and developments in the model world. The cutaway drawings and the plan service are especially pleasing to me. Don Still's Stunt Stuka and Palmer's "Smoothie" are beautiful stunt planes and excellent examples of the present trend toward realism. Let's have more like these.

Robert E. Wilson, New Orleans, La.

CAP Boost . . . I wish to thank you for your news about the Civil Air Patrol. Without the help of the address blank which I am enclosing I doubt if I could have gotten in contact with my nearest unit. I hope that you continue your section on the Civil Air Patrol.

John Glennon, Boston, Mass.

Identification Champ . . . For your information the caption of the Lockheed "Family Album," page 21, September issue, should read: From bottom to top are Super Constellation, Constellation; then from left to right: Electra, "12," Lodestar and finally the Constitution.

I am taking this opportunity to inform you that I am recognized as the World Champion at recognizing aircraft from pictures by Federation Aeronautique Internationale's representative in Canada, the Royal Canadian Flying Clubs Association. My score is 1,020.

I was very much interested in your "Idento-Quiz" by Douglas Rolfe; I was also quite disappointed when I read the answers at the bottom of pages 24 and 25 as I thought this was a contest rather than a test. So, how about a contest in a forthcoming issue of your excellent aeronautical publication?

Rene Charette, Ottawa, Ont., Can.

● The above segment of original photo attempts to show mainly the three "from left to right" planes where the error spotted by good eye of reader Charette obtains. That error was caused by misinformation released to us with the original picture.

All communications to the editors should be addressed to 304 East 45th St., New York 17, N. Y. **Subscription prices:** $3.50 per year in U.S. and Possessions; $4.50 per year in Canada; $7.00 per year in countries of the Pan American Union; $10 elsewhere. **Please advise us if you move,** giving old address and new address; allow four weeks for change of address; address all subscription mail to **Air Trails Subscription Department,** 304 East 45th St., New York 17, N. Y.

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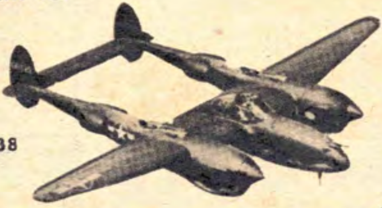
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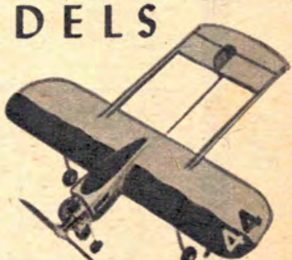

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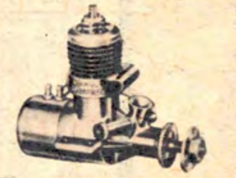

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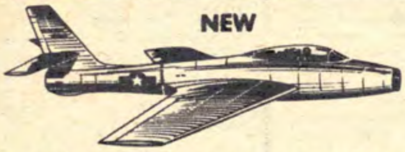
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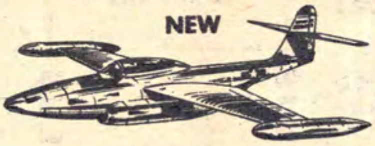
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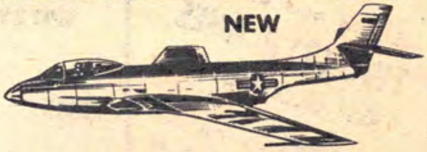
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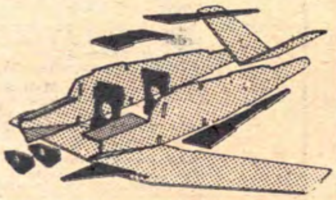
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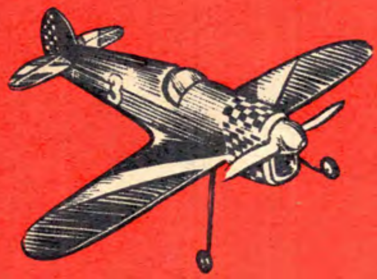

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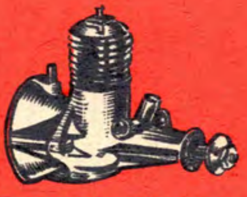

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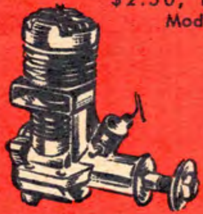

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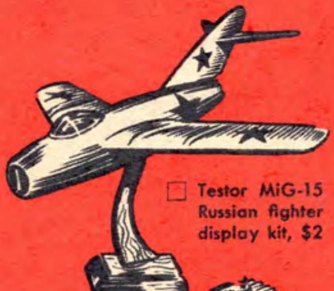

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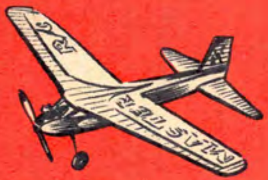

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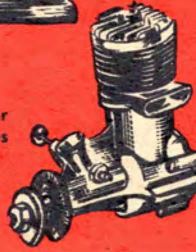
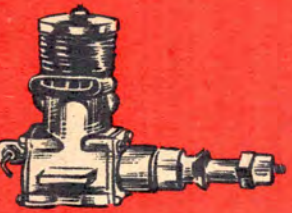


Veco .29 or .31 engines by Henry



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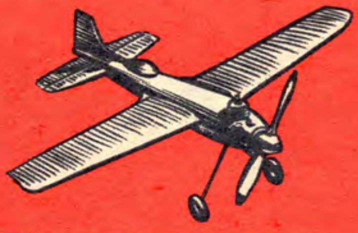

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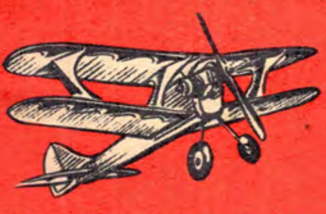

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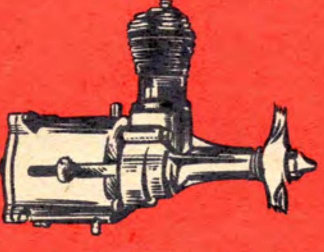

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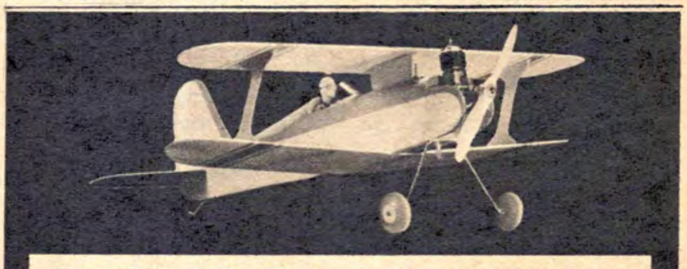

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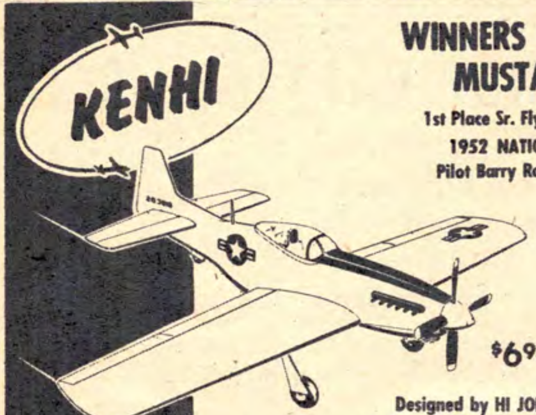

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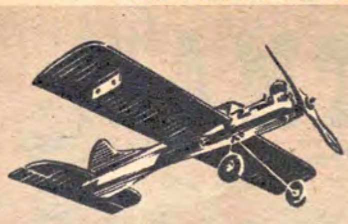
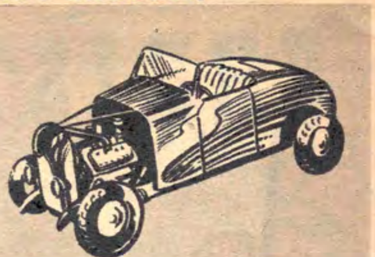


☐ For motors from .19 to .29 is Guillow's Profile Basic 32″ Trainer, $3.50



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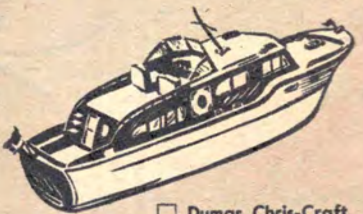

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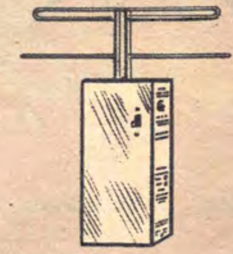

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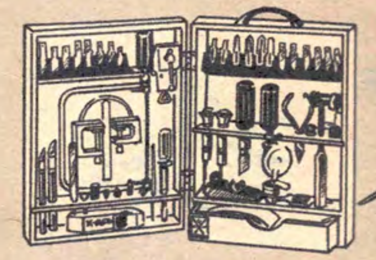

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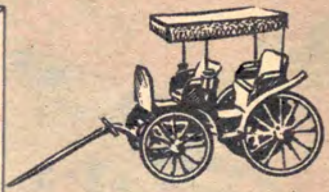

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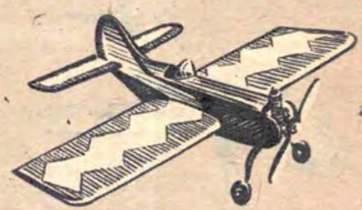

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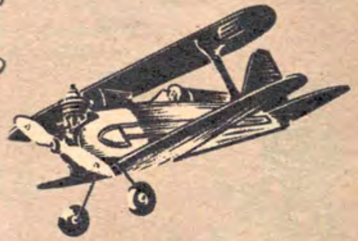

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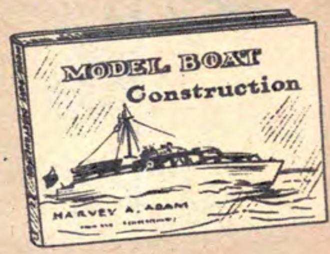

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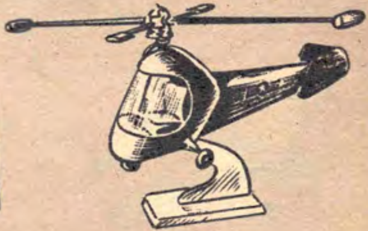

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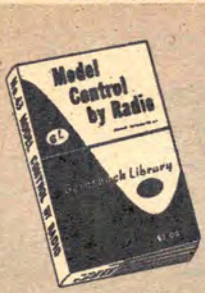

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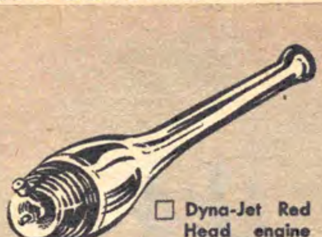

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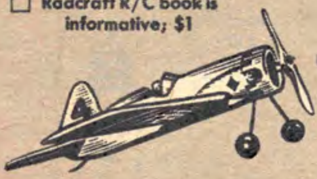

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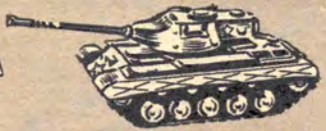

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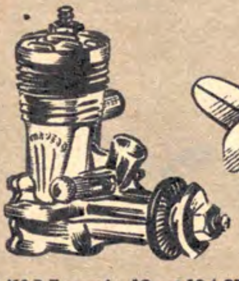

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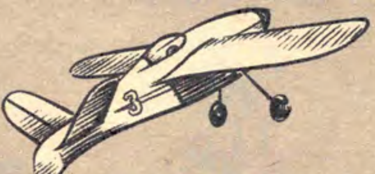
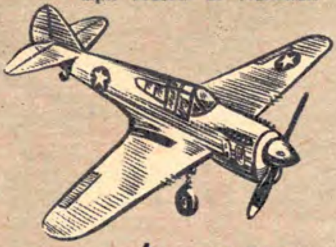
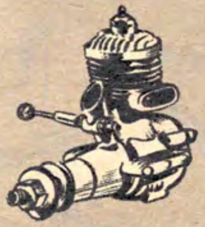


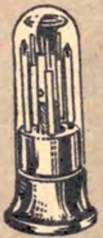
☐ Four Bullets by Occo of Omaha permits you to make any one of 4 versions; $2.50



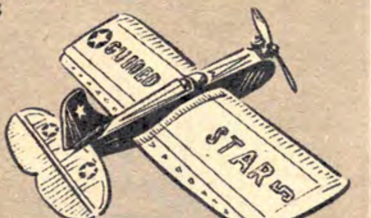
☐ F-B team racer P-40, $5.95



☐ Cameron .19, lapped or ring version motors, each $9.95



☐ Moody Allen & Phillips set, $2.50



☐ Consolidated's Guided Star 435 sq. in. wing; $5.95

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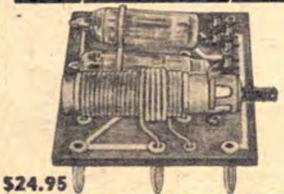
R/C with *P/C



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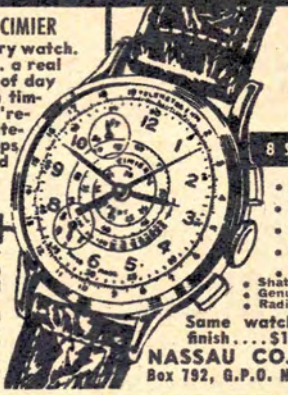

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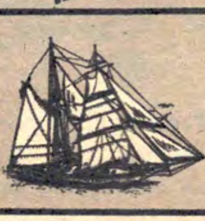

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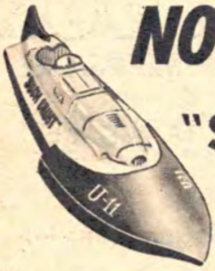

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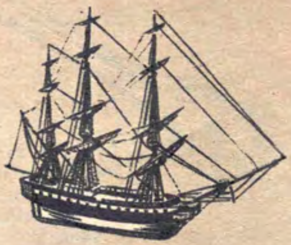
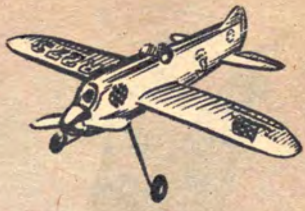
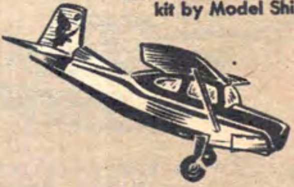


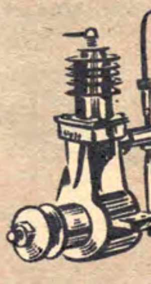
☐ Frigate Essex 1799 boat kit by Model Shipways, $12



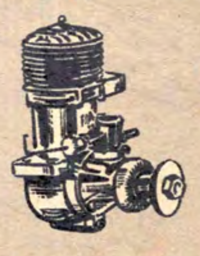
☐ Enterprise's "Air Racer," $3.39



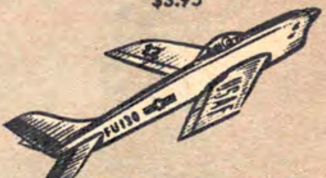
☐ Luscombe 76" span scale job for R/C by Cleveland, $7.50



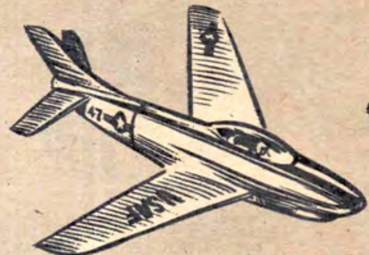
☐ Gotham Hobby's "Deezil," $3.95



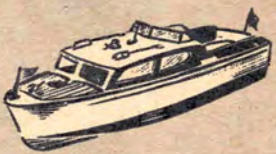
☐ F-29 Forster engine, $14.25



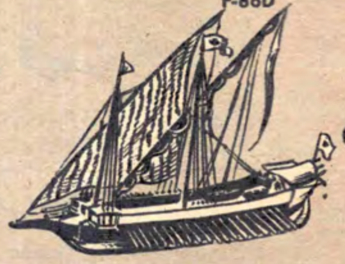
☐ Arrowjet is one of 3 Top Flite "Jigtime" models, each 59c



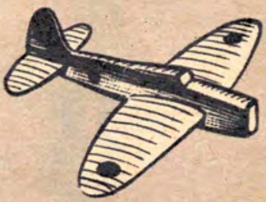
☐ Comet's $1 Sabre Jet F-86D



☐ Chris Craft kit by Sterling Models; 28-inch boat, $9.95



☐ Finished Constructo galley, $40



☐ PDQ's Jr. combat Zero, $1.50

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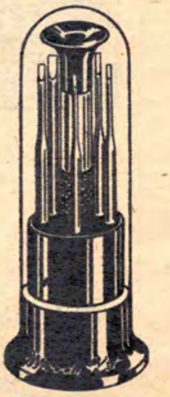

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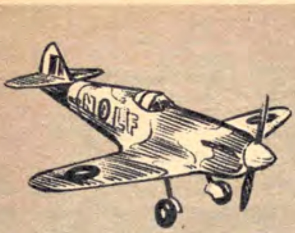
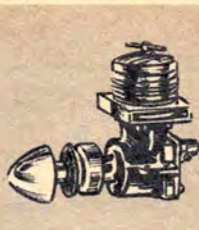
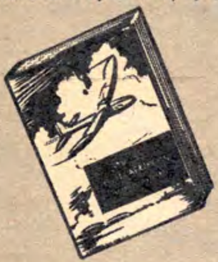


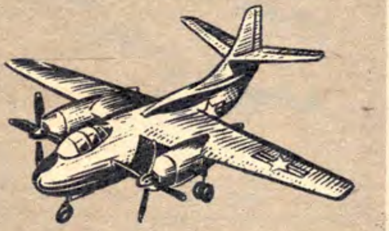
☐ Monarch's Spitfire U/C, $3.95



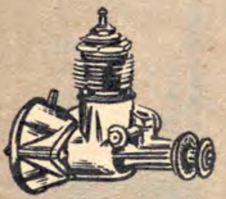
☐ Polk's E.D. 2.46 cc. racing diesel (.15 cu. in.), $16.95



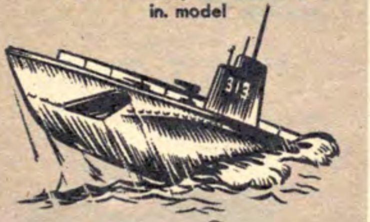
☐ Zaic's Yearbook, 150 plans, price $2



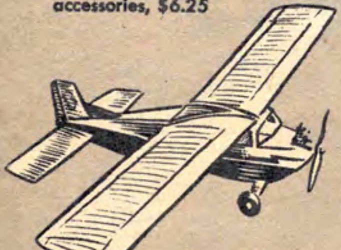
☐ North American AJ-1 Savage $6.95 Berkeley kit makes 26-in. model



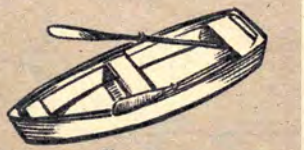
☐ Herkimer's .049X Cub in combo package with accessories, $6.25



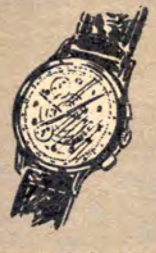
☐ U.S.S. Perch is snorkel type submarine offered in kit form by Cavacraft, 75c



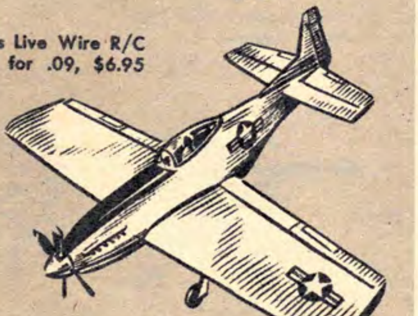
☐ DeBolt's Live Wire R/C trainer for .09, $6.95



☐ Ideal's 16″ Aqua Pal skiff, $1.50



☐ Nassau Co.'s Swiss Cimier with sweep-sec. stopwatch, $9.95



☐ Kenhi's $6.95 F-51 Mustang

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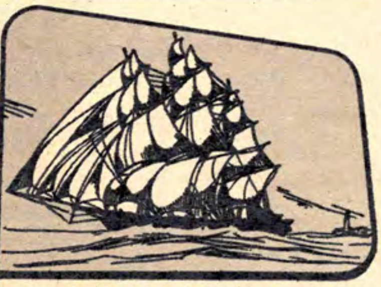

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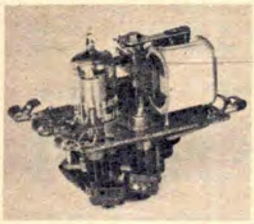

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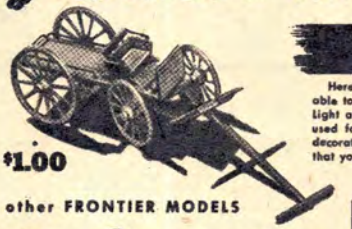

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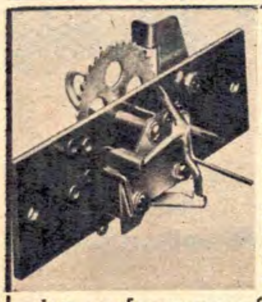

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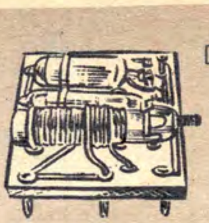
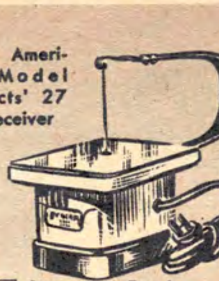
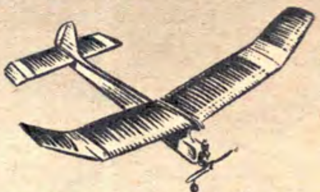


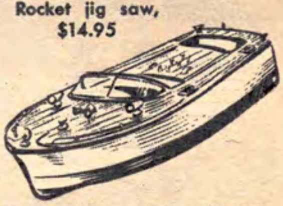
☐ North American Model Products' 27 mc. receiver



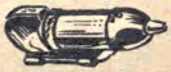
☐ Syncro Red Rocket jig saw, $14.95



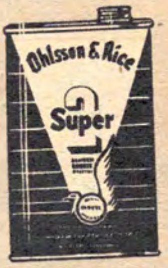
☐ Midwest's Fu-Bar 36" A/2 free flight, $1.75



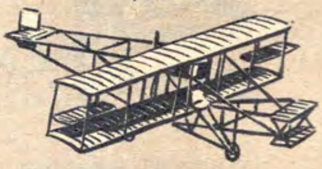
☐ K & O's 16" speedster, $11.95



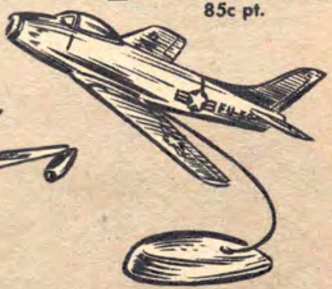
☐ Jetex Jetmaster "150" by American Telasco, $4.95

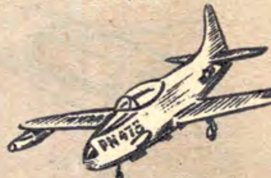


☐ O&R Cheminized fuel, 85c pt.



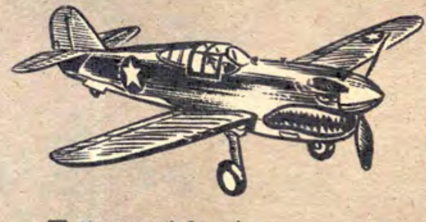
☐ 1910 Curtiss Pusher by Model Plastic Products, $1



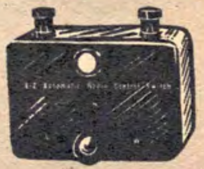


☐ Dyna-Model's F-80 Lockheed Shooting Star with metal fittings, $2.75

☐ StromBecKer's F-86 Sabre jet model with stand, 69c

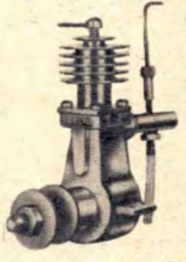


☐ Monogram's Speedee-Bilt P-40F Warhawk, 85c



☐ Osborne E-Z automatic R/C switch box, $8.50 & $9.50

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★



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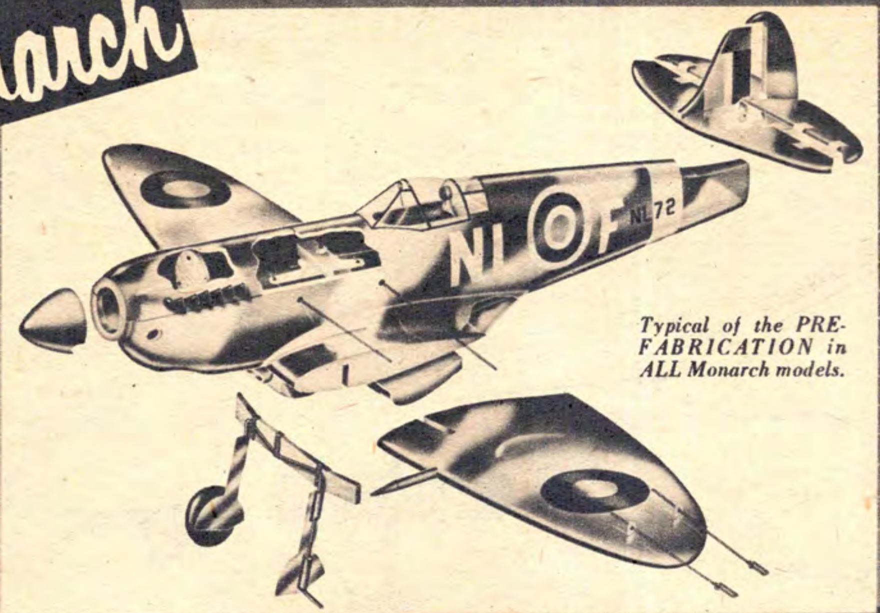
the ultimate in fine model design



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SPITFIRE

the "SPITTIN' IMAGE"
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Monarch's famous "SPITTIN' IMAGE" models — the Curtiss P-40F and Spitfire have won acclaim as the greatest half "A" CONTROL LINE scale gas models ever created. And for good reason . . . for here is design at its best—PRE-FABRICATION AT ITS GREATEST! These models are remarkable both for outstanding craftsmanship, and the faithful adherence to every line and contour of the actual airplanes. Here are scale gas models that look like "the real thing". For ease and speed of assembly — for sturdiness and realistic performance in flight — these models are in a class by themselves. The contents are lavish — SPINNERS, huge illustrations, multi-colored decals, and all the luxurious extras you would expect. Priced at $3.95 each at your Dealer now. By mail, add 30¢.

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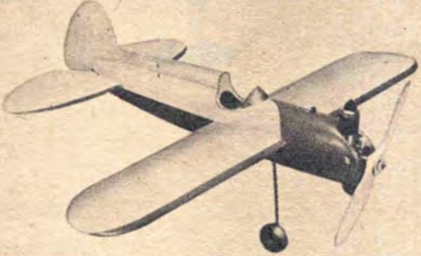
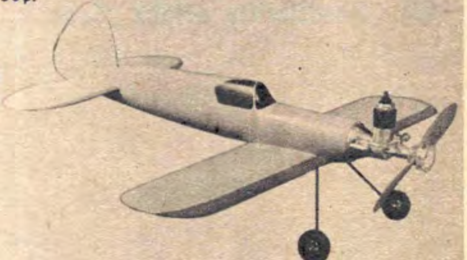


WEE WILLIE—1.95



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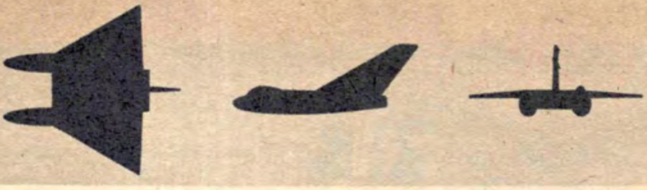
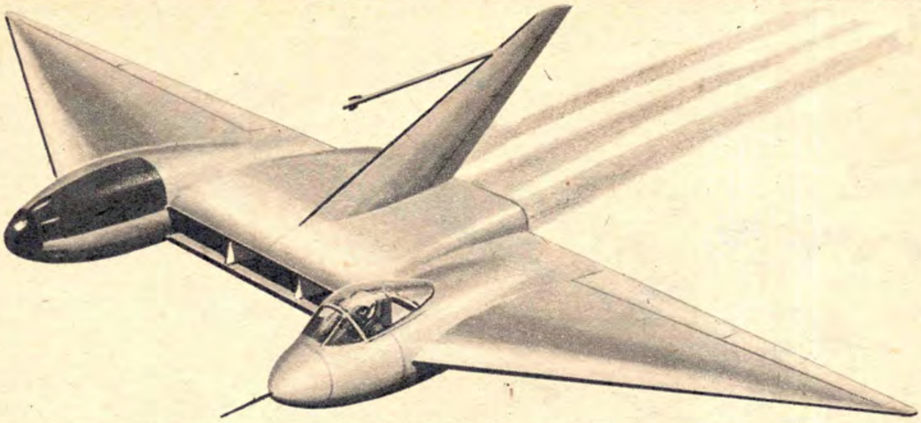
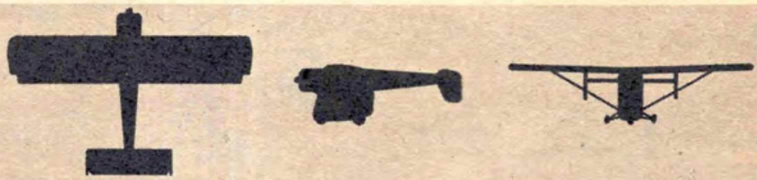
1ST Twin-fuselage jet bomber



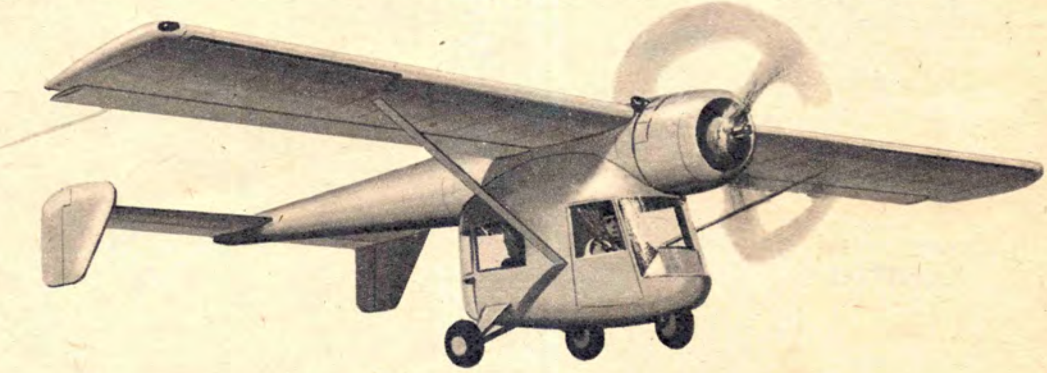


Best design of the month, a 3-jet light bomber by Ernie Heim of Detroit, Mich. Interesting and unusual feature is double fuselage, with crew cockpit in left pod, while right one has radar, armament and extra fuel tanks, thus leaving plenty of space for the personnel. Engines generate 6000 lbs. of thrust each. Span 50 ft., length 42 ft. Top speed around 700 miles per hour.

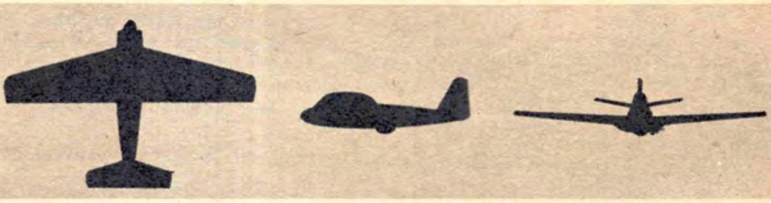
2ND Light utility transport

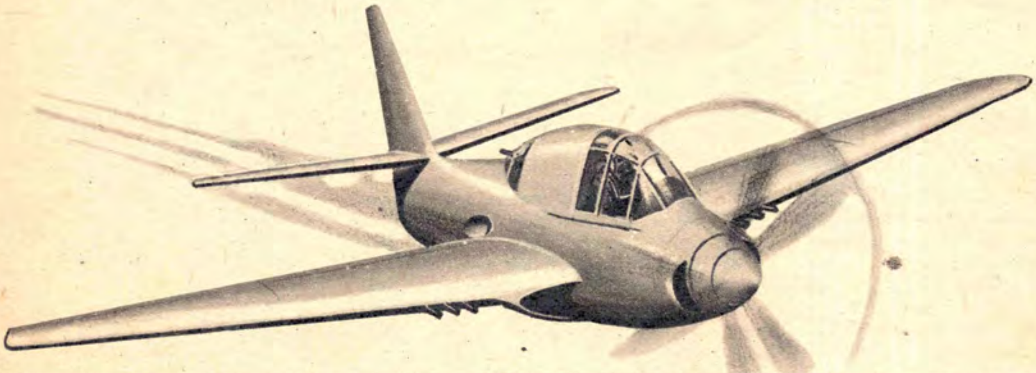


Commercal or military utility transport. A joint effort by Cluff Dilley and Fred Pierce of Ephrata, Wash. Can be used as cargo plane by removing rear seat. Loading is from rear, by removing back window. Full span flaps and slots give good small field take-off and landing characteristics. Span 40 ft. Engine 200 hp. Top speed 125 mph. All-metal construction.



3RD Hi-visibility attack plane





Carrier-borne attack plane by Pvt. Gerard Chaplain, formerly of France, now of Amarillo, Tex. Special feature of craft is location of cockpit to give better vision during take-off, bomb run and landing. Powered by one 5500 hp turboprop plus two small jet engines of Turbomeca Marbore type to assist take-off. Six 30-mm cannon in front and one 20-mm in rear, plus bombs and rockets.

AIRMEN OF VISION DESIGN COMPETITION

Air-Trails has opened its columns to those who are interested in presenting plans for "aircraft of the future." Rules governing the competition are as follows: Three-view sketches of the proposed aircraft will be required. These should be not less than 8½x11 inches for the entire three views. Give sketches of the complete airplane in three-quarter front and rear positions. Photos of a model of proposed design may be included. Information on the power plant(s), estimated performance, dimensions, and explanations of any unusual features are required. Data as to age, occupation or schooling of the entrant will be welcomed by the editors and judges. The design may be of any type: commercial aircraft, military planes (fighters, bombers, troop transports), planes for the private flyer and single-engine sporting or racing craft. The entry each month judged the most practical or of the greatest significance will receive an award of $25. Payment of $5 will go to the runner-up. Entries will not be returned and for that reason those participating should keep copies of all material submitted. Mail entries to Airmen of Vision, c/o Air Trails, 304 E. 45th St., New York 17, N. Y. Edtors regret that because of large number of entries they cannot enter into any correspondence on Airmen of Vision.

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Curtiss P-40 Warhawk
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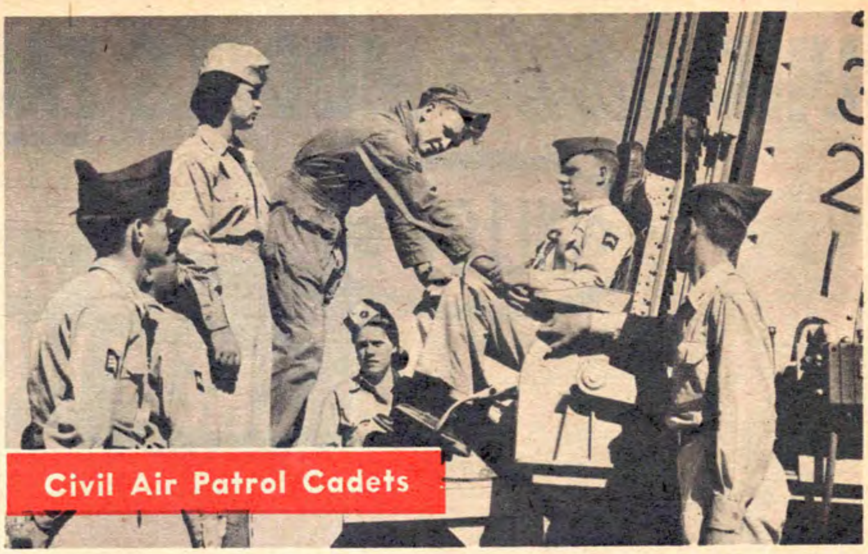


Cadets from Arizona's CAP Wing at Williams Air Force Base get "lowdown" on the ejection seat training tower. Two-striper Jim Baldwin sits in driver's seat while others look on.

Patrol Checking Model Program

A scale model contest with flight scholarships as prizes will be considered in the December meeting of the CAP Board in Orlando, Fla. This nation-wide program was endorsed by Gen. Carl A. Spaatz, Board Chairman, in an interview with Kendall K. Hoyt, founder of the CAP Cadet program, which was published by Air Trails last month.

After a preliminary hearing at the last meeting in Detroit, the Board asked that the plan be given full study by CAP headquarters. The belief that the annual drill competitions, more suitable for a ground organization, should be replaced by something in aviation leads us to hope that action will be prompt and favorable.

Although CAP could run such a contest alone, it may well be combined with the big program now going forward to man and operate the Ground Observer Corps. This in turn should greatly increase CAP Cadet enrollment. Since Cadets make effective ground observers, special units already are developing for joint CAP-GOC service.

Broadening of CAP's official missions to include new ground observer responsibilities is under staff consideration as this is written.

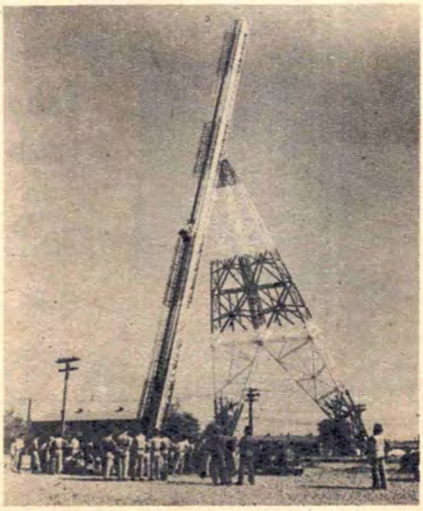
Meanwhile, the Air Defense Command, in charge of GOC as part of its aircraft-radar-observer system of constant watch against the enemy, has assured Air Trails of its interest in bringing young people into the program.

Flight scholarships are being financed on an increasing scale by CAP units without waiting for a national program. CAP volunteers give free ground school courses to its Cadets and fly the young people, both boys and girls, in the Air Force planes now on loan in all areas.

But CAP leaves the job of flight training to the private operators at home airports. Since it costs upwards of $12 per hour for dual time, with an instructor, and usually $7 or more for solo in light aircraft, too few Cadets who start with CAP can afford to go further, much as they yearn to fly.

So here is a worthy cause for donations. The first step is to take the student to solo. Earlier this took a minimum of eight hours under CAA rules. Now, it's whenever the instructor thinks the student is ready, whether it's four hours or eight or 20.

So it costs (*Continued on page* 56)



Away he goes! Better than anything at an amusement park is ride on ejection seat tower. And worthwhile, Cadets found.

Join the Civil Air Patrol—the civilian auxiliary of the U. S. Air Force. Cadets are 14½ to 17; seniors, 18 and above.

C. A. P. NEWS c/o Air Trails
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I'm interested in more information on the CAP and would like to hear from my nearest unit.

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Air Trails, Dec., '52

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You'll especially enjoy building a Superkit model with all-finished balsa and molded plastic parts, but if you prefer you can build and enter any of the other 25 Monogram Models listed below:

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G14 Corsair F4U-5
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R4 Midjet
B6 Aqua-Jet

Ship Models
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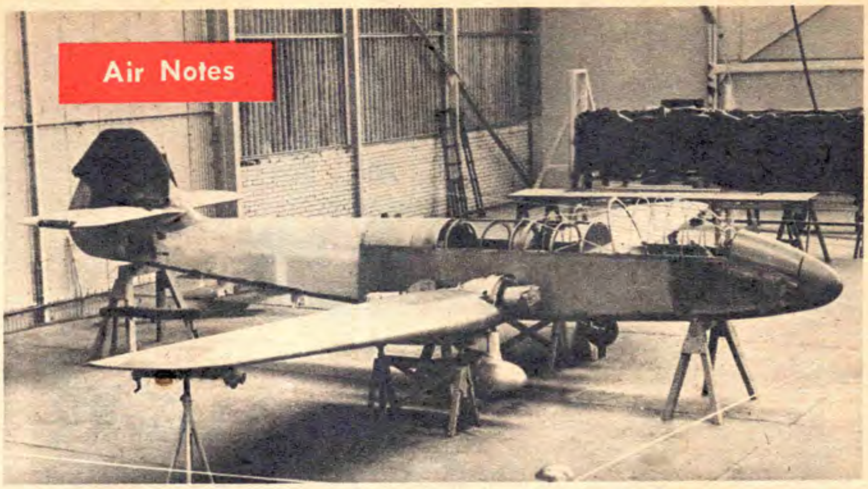

Air Notes

Jets Power English Lightplane

NEARING COMPLETION at Shoreham is Britain's first jet lightplane, the Miles "Sparrowjet." Powered by two Turbomeca Palas miniature turbojets installed in the wing roots, the Sparrowjet will have a top speed in the vicinity of 300 mph, and is intended for air racing. The Sparrowjet uses the modified airframe of a prewar Miles Sparrowhawk (G-ADNL).

★ ★ ★

MORE than fifty different types of aircraft as well as rockets, guided missiles and an elaborate static display of jet and piston engines and aircraft accessories at the big yearly S.B.A.C. display held at Farnborough, England. Publicly shown were such hitherto secret airplanes as the delta wing all-weather interceptor, the Gloster G.A.5 Javelin, the huge four-jet delta bomber, the Avro 698, and the de Havilland 110, as well as such civilian transports as the turboprop-powered Bristol Britannia and the Saunders Roe Princess flying boat. But the festive mood of the display was cut short by one of the greatest tragedies in aviation history, when the twin boom all-weather DH.110 fighter, flown by England's best test pilot, John Derry, disintegrated in the air just as he was making a pass over 110,000 people after reaching supersonic speed in a dive from 40,000 ft. Parts of the fighter, including its two jet engines, killed 27 spectators and injured more than 50. In the flaming wreckage of the DH.110 perished Derry and his observer Tony Richards.

★ ★ ★

NEW AND POWERFUL jet engine, the Westinghouse J-40, said to develop at least 10,000 lbs. of thrust, in production. It will power McDonnell F3H Demon and the Douglas F4D-1 Skyray. Powerplant is 25 ft. long and about 40 inches in diameter. . . . ARMY, NAVY AND MARINES placed orders for a number of Hiller Hornet ramjet helicopters. 'Copters' designation will be HJ-1. . . . F4U CORSAIR of the Marine Corps shot down a Red China MiG-15. . . . FOUR Convair 340 airliners have been ordered by the Brazilian Services Aereos Cruzeiro Do Sul. . . . ROCKETS may go 1000 miles up in next five years, according to Naval Research Laboratory, but interplanetary travel is still remote. Main problem is sustaining human life outside of earth's atmosphere.

AIR FORCE has placed a seventh re-order of Lockheed T-33 two-place jet trainers. . . . NORTH AMERICAN FJ-2, Navy swept wing fighter, version of AF's F-86, successfully completed carrier suitability tests. Undergoing same tests were two other Navy jets, the Grumman F9F-6 Cougar, and the Vought F7U-3 Cutlass. . . . CAA announced that applicants for private pilot certificates with glider and helicopter ratings hereafter will take specially prepared written exams.

★ ★ ★

McDONNELL F3H Demon to be built under license agreement by Temco Aircraft Corp. of Dallas, Texas. . . . TWO WORLD and one National soaring records were established during the 19th National Soaring Contest at Grand Prairie, Texas. Of international aspect was William Coverdale's flight of 268 miles to Brownwood, Tex., and return, and Richard Johnson's speed dash at an average of 53.3 mph. Betsy Woodward, National woman soaring champion, was credited with a U.S. National distance record for women of 205 miles. Soaring Contest was won by Richard Johnson in his RJ-5 high performance sailplane.

★ ★ ★

PRATT & WHITNEY AIRCRAFT will go into production of ramjet engines for high-speed guided missiles. . . . NINE civilian aviation schools awarded contract by AF to give primary flight instructions to cadets. Will use 90 hp Piper PA-18 Cubs. . . . FAIRCHILD working on four-engine version of Packet. . . . JET AIRLINERS may be in limited domestic operation in USA in 1958, according to C. R. Smith, president of American Airlines. Main handicap, at present time, is high cost of operation due to high fuel consumption. Medium-size jet transport will consume five tons of fuel per hour, with result that too high a proportion of carrying capacity of the airplane must be devoted to fuel. As an example, the Douglas DC-6B consumes 8.9 lbs. per hour, while a jet liner, of the same size, in spite of its much higher speed, would require about 20.4 lbs. per mile.

★ ★ ★

MAX CONRAD'S 2462-mile flight in Piper Pacer from Los Angeles, Calif., to Jacksonville, Fla., has been recognized as official international record for lightplanes (Category II) by NAA.

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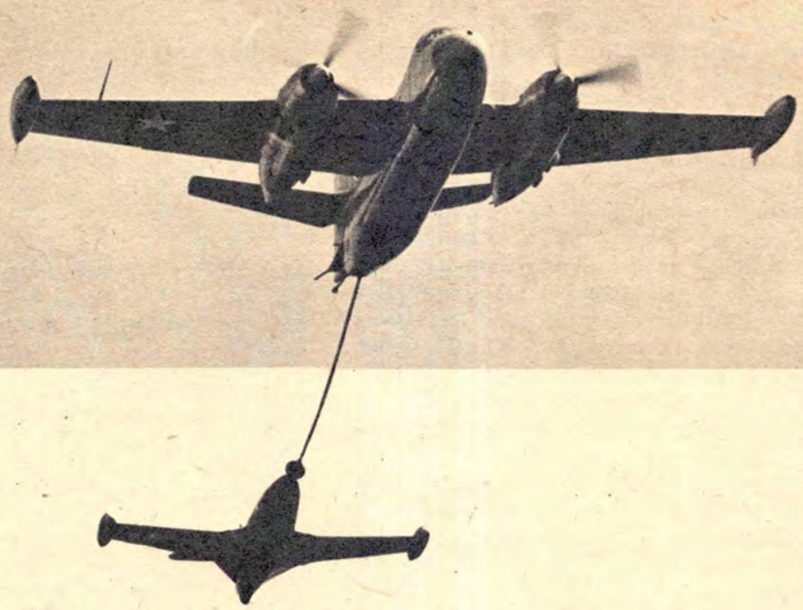
Check One ☐ Veteran ☐ Non-Veteran

TRAIN IN MIAMI -- AIR CAPITAL OF THE WORLD



Wing-Ding in DETROIT

■ The Fifth International Aviation Exposition, sponsored by the large and progressive Aero Club of Michigan, took place again this year at the Wayne Major airport, Detroit. In size and scope it dwarfed any air show held so far anywhere, with the possible exception of Great Britain's Farnborough display. It was 99 percent military in aspect, with the Air Force, Navy, and Army displaying their equipment on the ground as well as in the air. The quarter million spectators who attended the three-day event were given for the first time a glimpse of such hitherto secret planes and operations as the refueling of a Navy F9F-5 Panther by a North American XAJ-1 Savage (above), fly-by at slow and high speed of the Vought F7U-3 Cutlass, North American FJ-2 Fury, Grumman F9F-6 swept-wing Cougar and McDonnell's long-nosed photo-recon Banshee F2H-2P.

The Air Force precision aerobatic team, the Skyblazers, flying four Republic Thunderjets (below) amazed the crowds with close-formation stunting. These pilots flew so tightly that the top of the slot man's rudder was black from the exhaust of the leader's tail pipe. Similar exhibition was given by the Navy's famed "Blue Angels" team, billed in the program as "four planes that fly as one." A B-36 bomber flew in from Seattle, Wash., via the North Pole arriving within a minute of scheduled time, the entire trip taking 37½ hours.

On the heels of the B-36 came a B-47 jet bomber from Edwards AFB, Calif., in 3 hrs. 19 min., averaging 600 mph.

Practically every Air Force and Navy service plane participated in single and mass fly-bys, the skies being continuously shattered by the roar of jet and piston engines. Static exhibits in and around the hangar broadened the picture "upstairs" with displays of engines, accessories, and armament. A static model of the Douglas Skyrocket was the center of attraction. An impressive demonstration by the ground forces in the use of Army liaison planes and helicopters in battle which employed machine guns, artillery fire and flame throwers, rounded out the military services' show.

Unfortunately, the air show was not without casualty. In the afternoon of the first day, during the Air Force flight exhibition, a Northrop F-89 Scorpion, piloted by the Korean ace Maj. Donald Adams, disintegrated while 200 feet above the airport, shedding first its left wing, then the rear fuselage portion. It was one of the two Scorpions scheduled to make a low pass in front of the grandstand, with a sharp pull-up to demonstrate the plane's climbing ability with afterburners. The plane came apart just as Maj. Adams started his climb. The wing and tail fell on the airport while the fuselage with the right wing still attached spun leisurely across the field, landing on a National Guard ammunition depot and setting off intermittent explosions that lasted till the fire was brought under control. Parts of the plane which fell onto the airport burned and damaged five cars and injured a like number of people. Major Adams' companion plane miraculously escaped damage from flying debris and landed safely at Selfridge AFB.

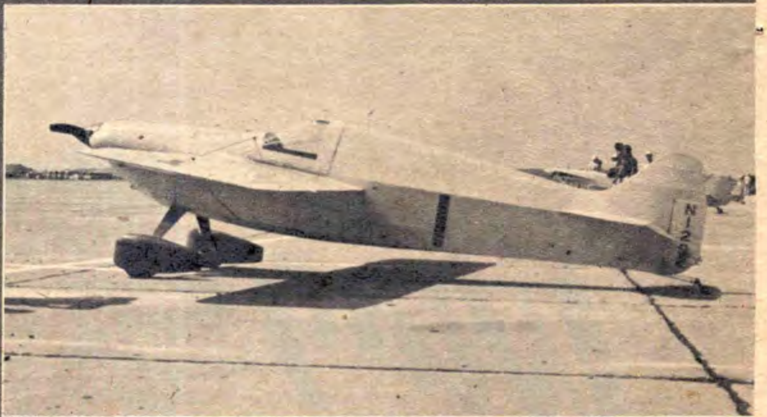
Main attraction of the civilian part of the air show was the annual midget plane race for the Continental Motors Trophy, which promised real excitement this year since both were favorites to win. Steve Wittman and last year's winner, John Paul Jones, were two-time winners of the trophy, with a third win meaning its permanent retention. Midget field consisted of sixteen entries, all of which, with the exception of an inverted gull wing entry by Russell Northrup of Rochester, N. Y., are familiar to our readers.

Qualification speeds were the highest yet. Fastest to qualify was John Paul Jones with his #16 Shoestring, who averaged 230.16 mph over the two-and-a-half-mile course, followed by Bill Falck in Rivets at 200.89 mph. Speaking of Falck, we have watched him from the very beginning of midget racing back in Cleveland where he started as a novice racing pilot with a crude racing plane. Both he and the racer steadily improved to the point where now both are definitely in the big league. Rivets, this year, looked exceptionally good structurally as well as finishwise. Steve Wittman in his yellow Bonzo and Jim Miller in #14 tied for third place at 200 mph.

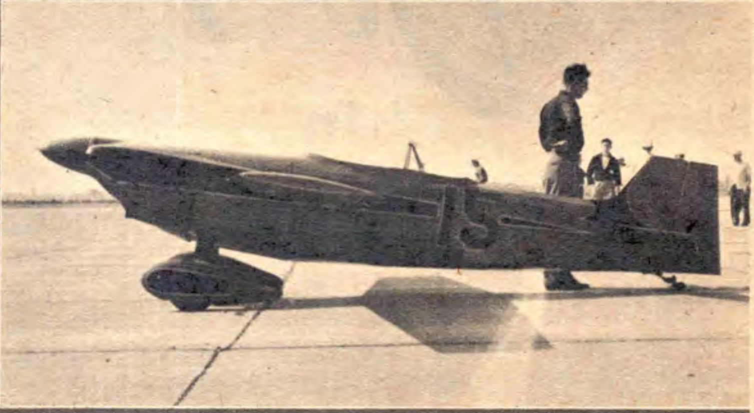
Modifications on the midgets consisted mostly in minor changes, such as closer fitting cowlings, more streamlined pants, though some equipped their planes with smaller wings. Both of Wittman's planes, Bonzo and Buster,

(*Continued on page* 69)

Steve Wittman captures the Continental Trophy for the third time, while midget racers bust all speed records of previous years

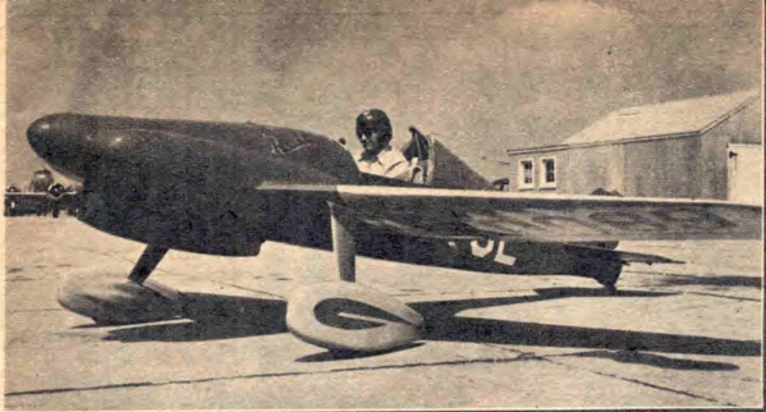


The champion! Three times winner of Continental Trophy Race, Wittman's Bonzo is one of best examples of classical midget racing design, most copied. So far, no one has achieved the same results as the old maestro of air racing himself.

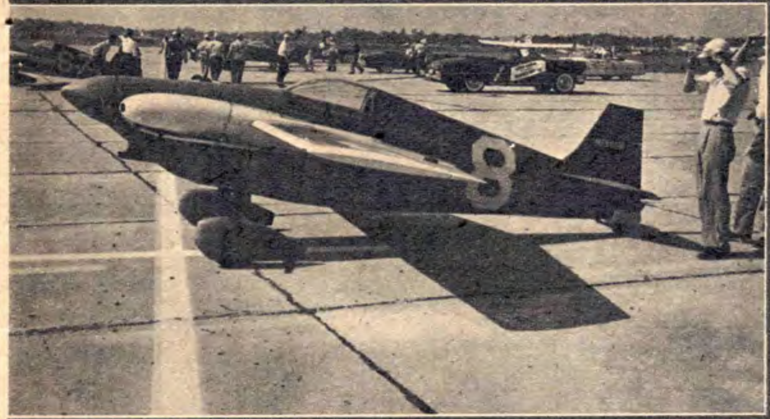


Dick Ohm, of Rochester, N. Y., and his #15. Plane much modified since last year. Rear turtle-deck cut and lowered, new square rudder installed; wing smaller, engine cowl reworked for better streamlining; new pants and canopy.

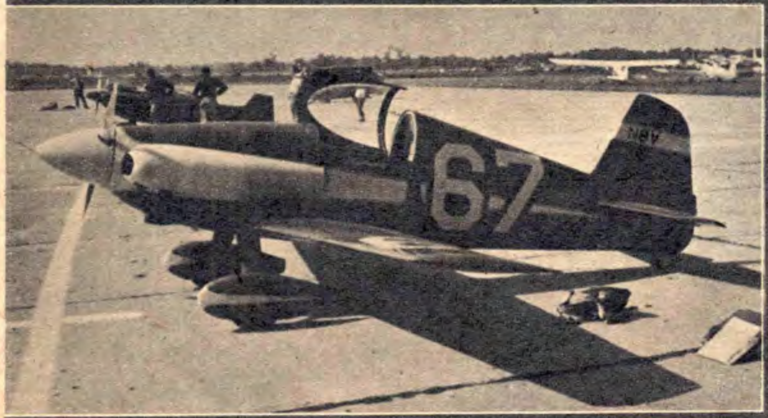
John Paul Jones, pilot of Shoestring, snapped after test flight in Kistler's Skeeter. Plane has a new, smaller, all-metal wing which developed flutter at high speed. Jones volunteered to test the plane for Kistler—a typical racing pilot gesture.



Bill Falck of Warwick, N. Y., in Rivets. Only modification since last year was a set of new pants. Rivets is sole racer with swept-back wing leading edge and probably has a more generous wing area than most. Performancewise it is tops.

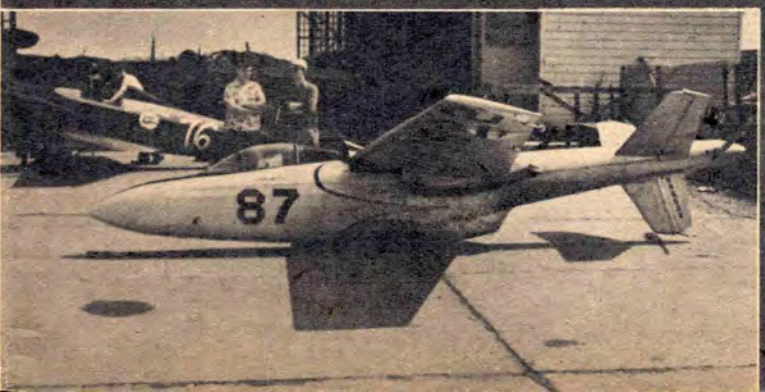


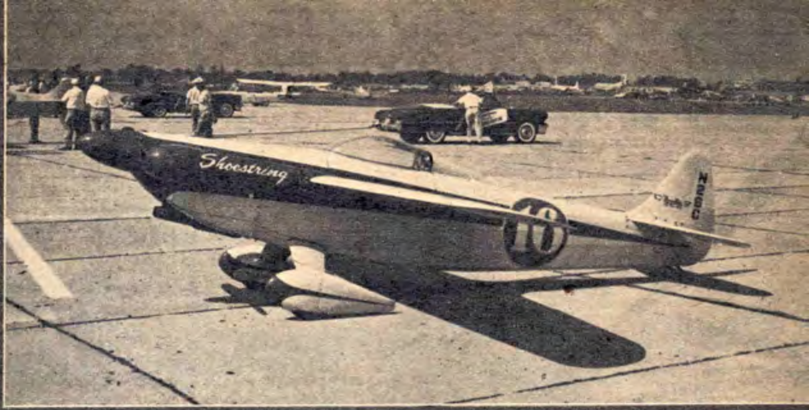
Bill Brennand and Pitts #8, Lil Monster, just prior to 2nd elimination heat. Plane had a new, tighter engine cowl. Its best qualifying speed was 196.5 mph—excellent for several years ago, but gave its pilot only fifth place this year.



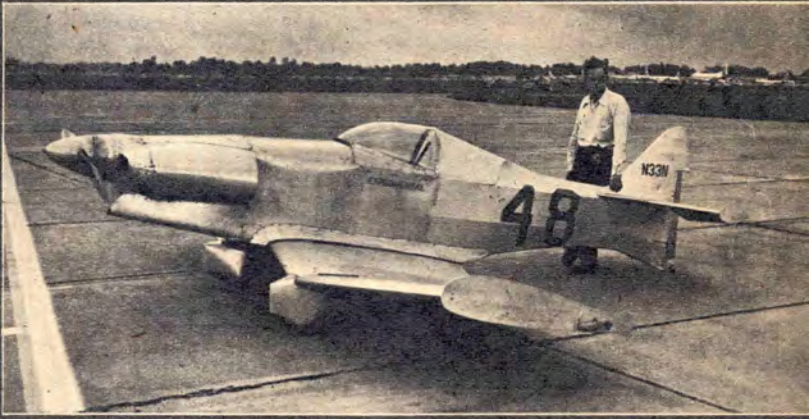
Luther Johnson's Long Midget sported a new cream paint job with blue trim; otherwise unchanged. Its qualification speed was 181.5 mph. Took fourth place in second elimination heat and second in consolation race. He had two such ships.

PAR Special, the most radical midget, and most unlucky. Its worst trait is long take-off run. However, once in air it accelerates rapidly, is basically good fast airplane. Cranky engine was responsible for the slow speed this year.

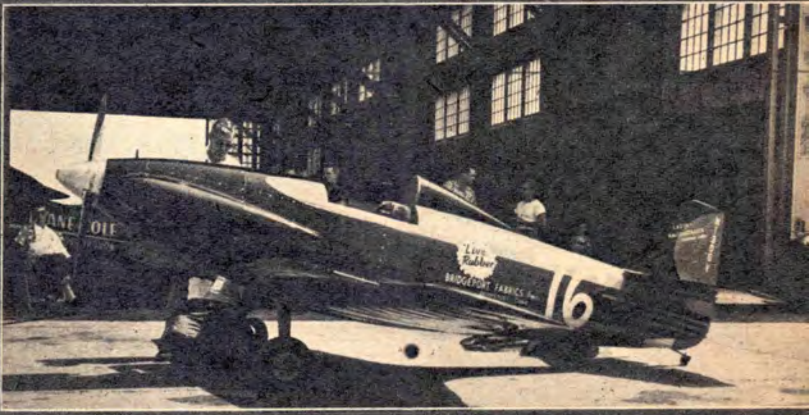




Shoestring bravely but unsuccessfully defended its title. Pilot John Paul Jones flew what seemed reckless race at extremely low altitude. Actually it was one of the most thrilling exhibitions of superb piloting technique. He drew penalty.

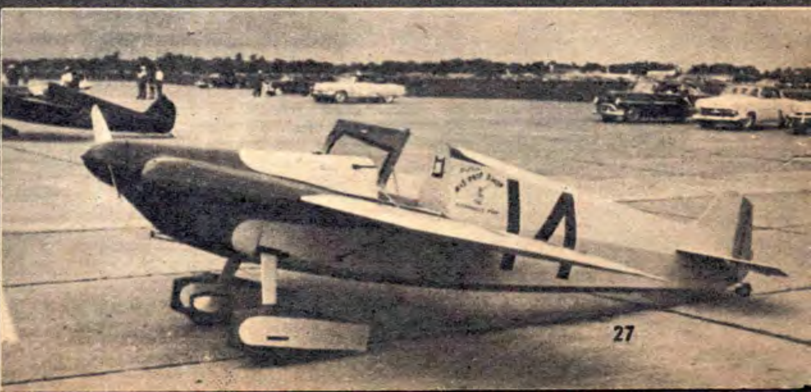


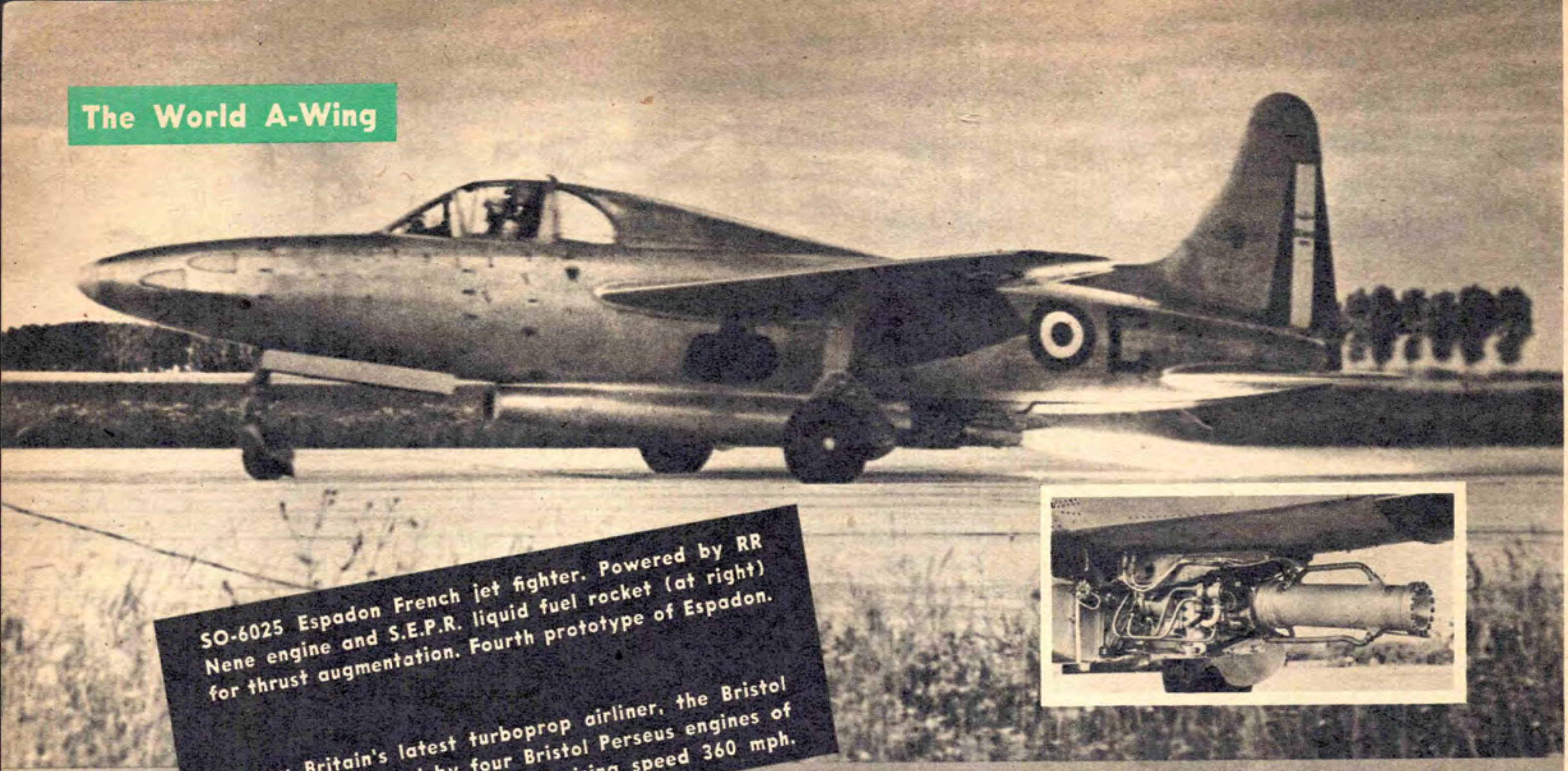
Russ Northrup of Rochester, N. Y., and his inverted gull wing racer #48 were newcomers. Plane had tip plates on wings and horizontal tail surfaces. All metal with fabric covered wing and tail. Qualified at 163.6 mph. Changes will help.



Bell of Bethany from Connecticut, flown by Jim Blick. Red and black finish, new cowl and new pants were modifications. Qualified at 165 mph. (Did 230 mph on straightaway back home, said owners.) Engine wouldn't turn up at Detroit.

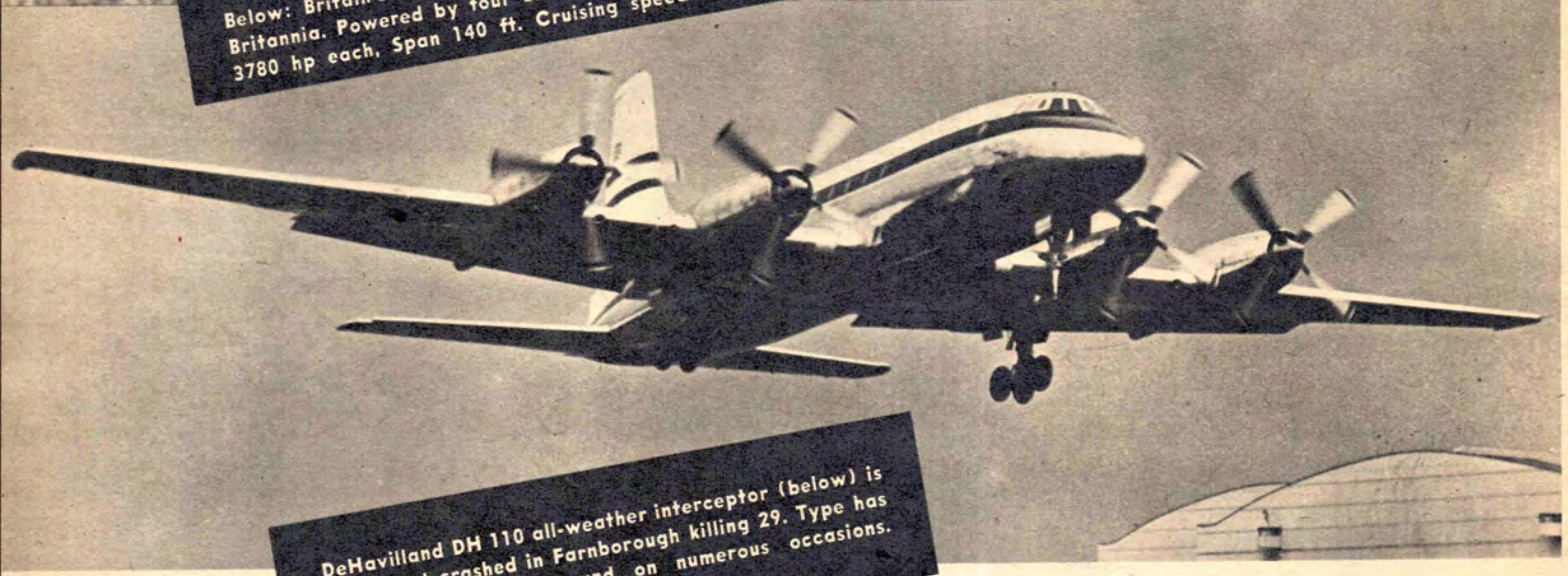
Jim Miller's Little Gem. One of fastest racers to qualify. New engine cowl and pants, otherwise unchanged. Unfortunately, blew off canopy during 3rd elimination heat, damaging wing. Pilot Miller force-landed skillfully in driving rain.





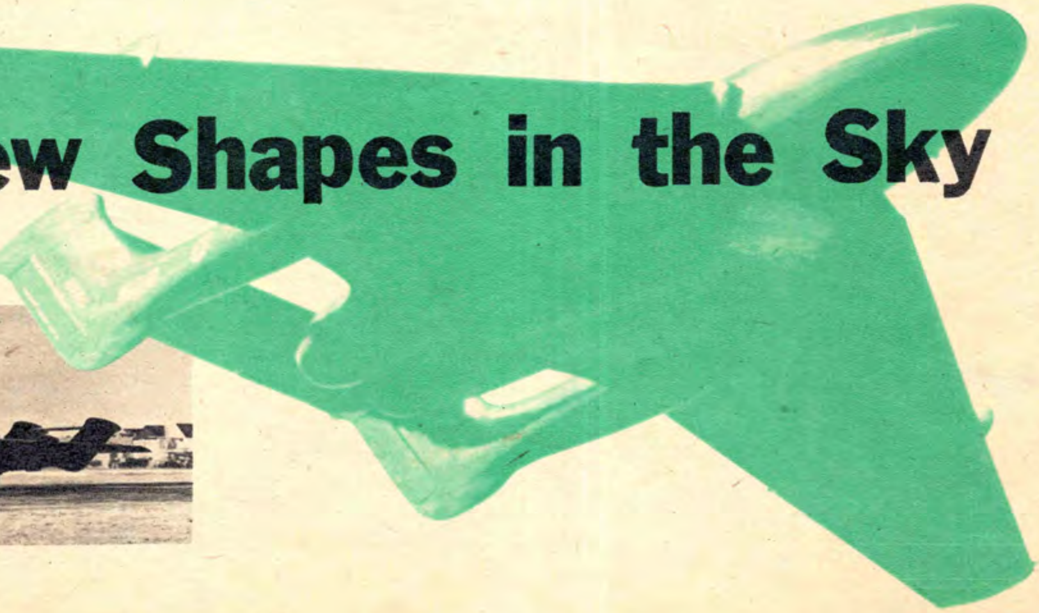
SO-6025 Espadon French jet fighter. Powered by RR Nene engine and S.E.P.R. liquid fuel rocket (at right) for thrust augmentation. Fourth prototype of Espadon.

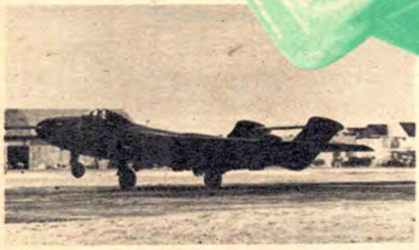
Below: Britain's latest turboprop airliner, the Bristol Britannia. Powered by four Bristol Perseus engines of 3780 hp each. Span 140 ft. Cruising speed 360 mph.

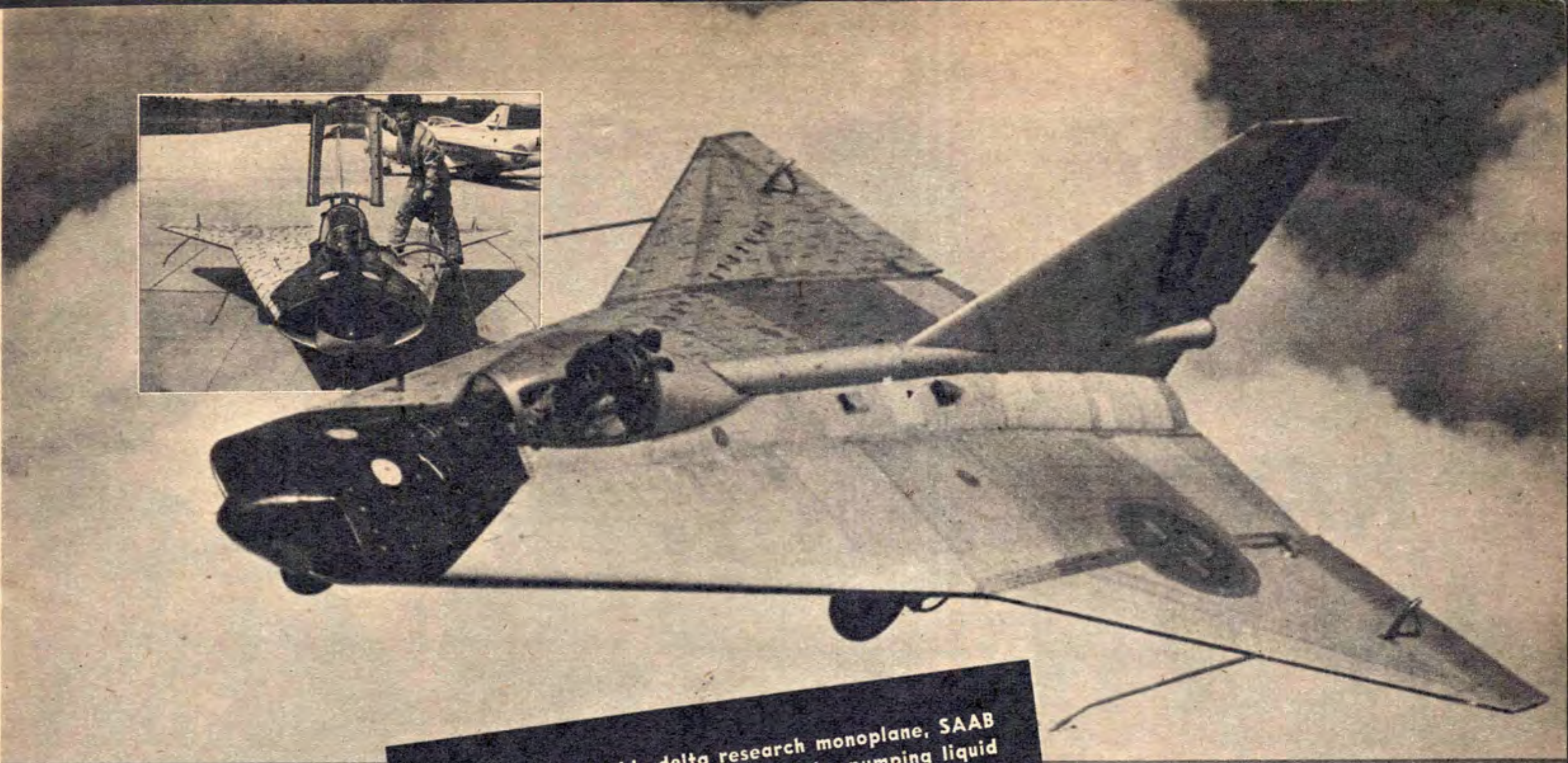


DeHavilland DH 110 all-weather interceptor (below) is plane that crashed in Farnborough killing 29. Type has exceeded speed of sound on numerous occasions.

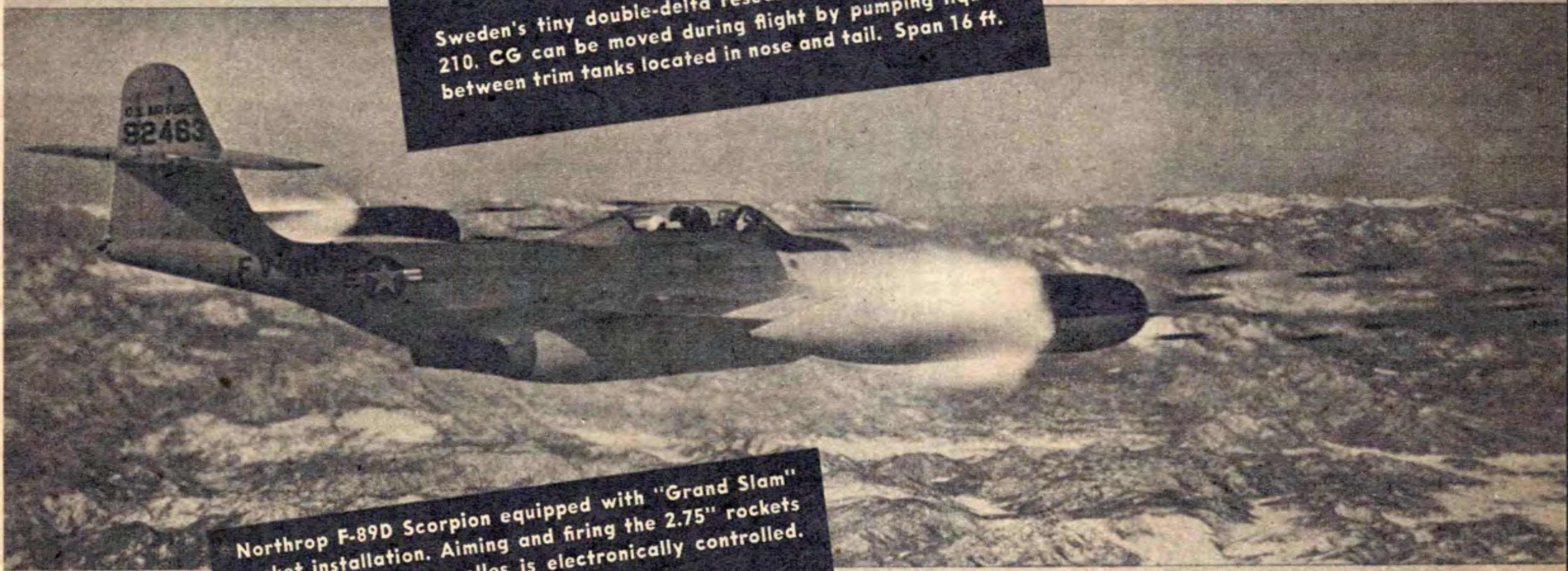
New Shapes in the Sky



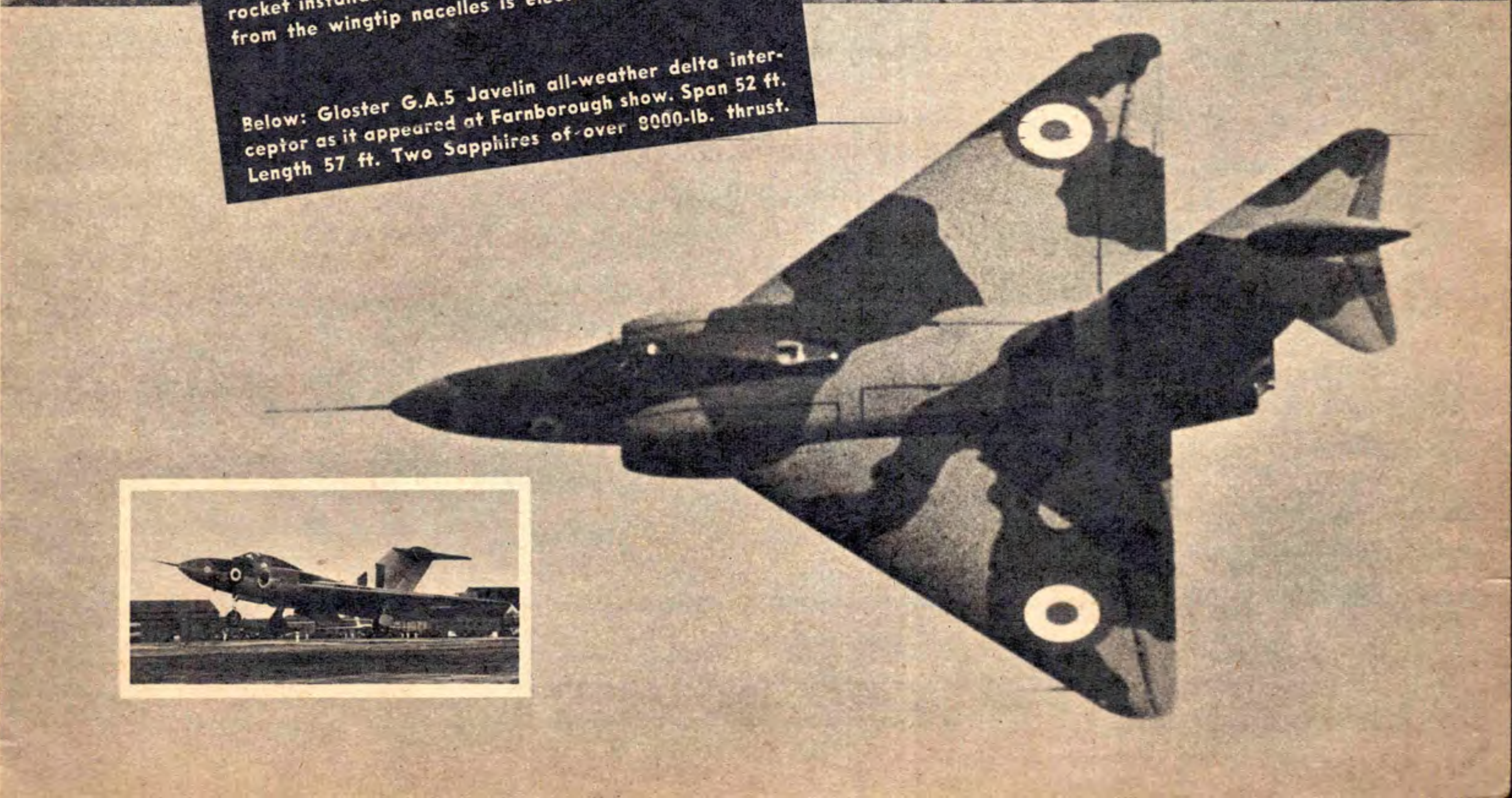




Sweden's tiny double-delta research monoplane, SAAB 210. CG can be moved during flight by pumping liquid between trim tanks located in nose and tail. Span 16 ft.



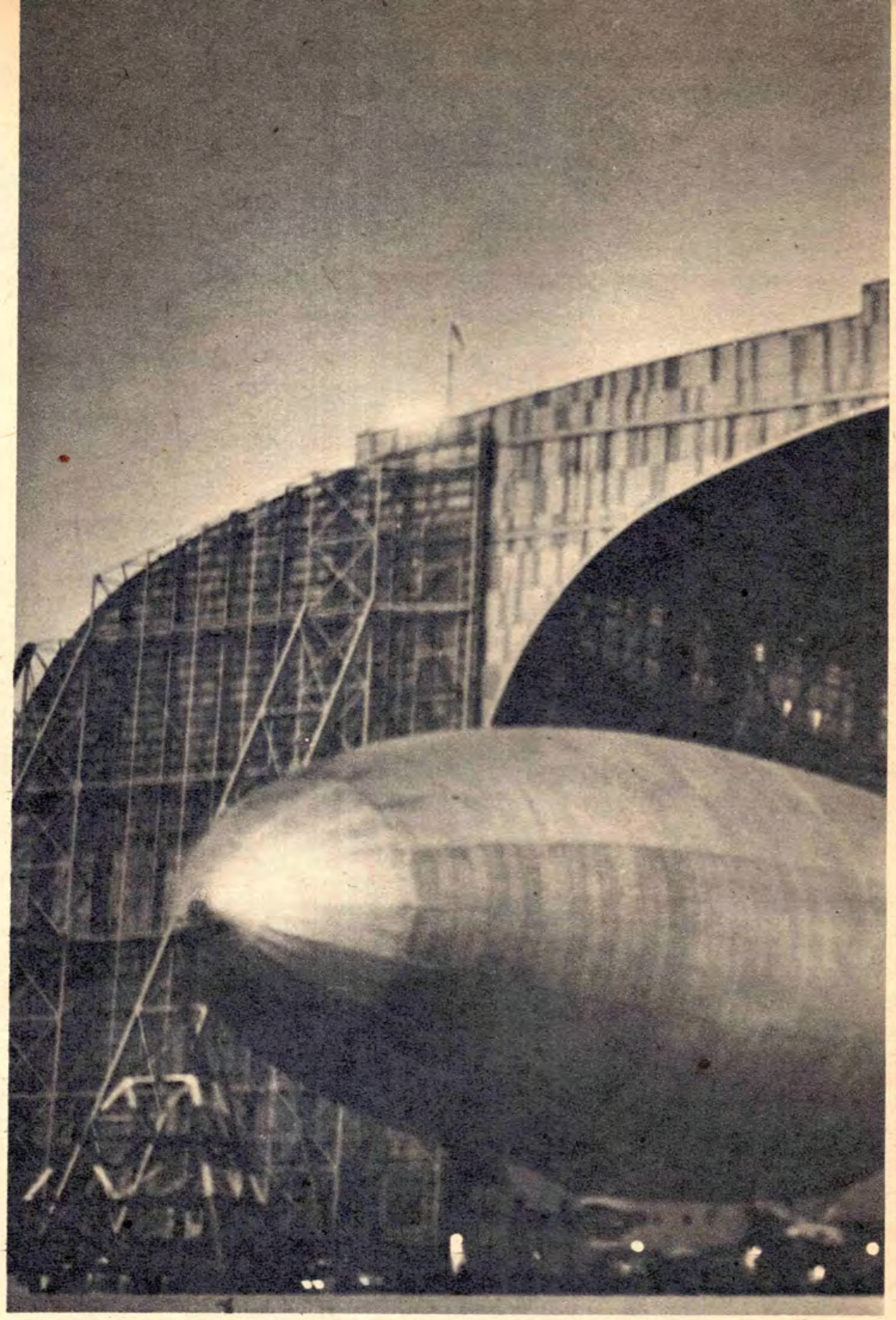
Northrop F-89D Scorpion equipped with "Grand Slam" rocket installation. Aiming and firing the 2.75" rockets from the wingtip nacelles is electronically controlled.

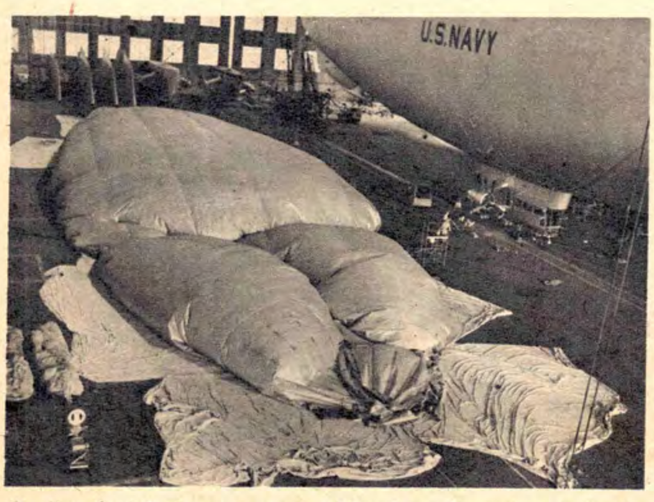


Below: Gloster G.A.5 Javelin all-weather delta interceptor as it appeared at Farnborough show. Span 52 ft. Length 57 ft. Two Sapphires of over 8000-lb. thrust.

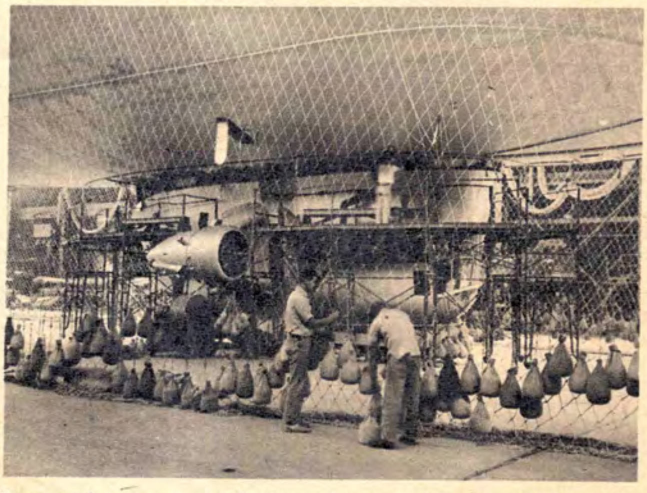
NAVY'S NAN

Navy's latest dirigible, the Goodyear-built ZPN, or Nan in Navy parlance, is the largest non-rigid blimp in the world, with a capacity of 875,000 cu. ft. and an envelope length of 324 ft. It carries a crew of 16 and is fully equipped with all facilities for comfort. Inasmuch as it is destined for anti-sub patrol it carries elaborate electronic equipment and armament for search and destruction of underwater foe. Power is supplied by two Wright R-1300s of 800 hp each. Ruddevators give A-1 maneuverability.

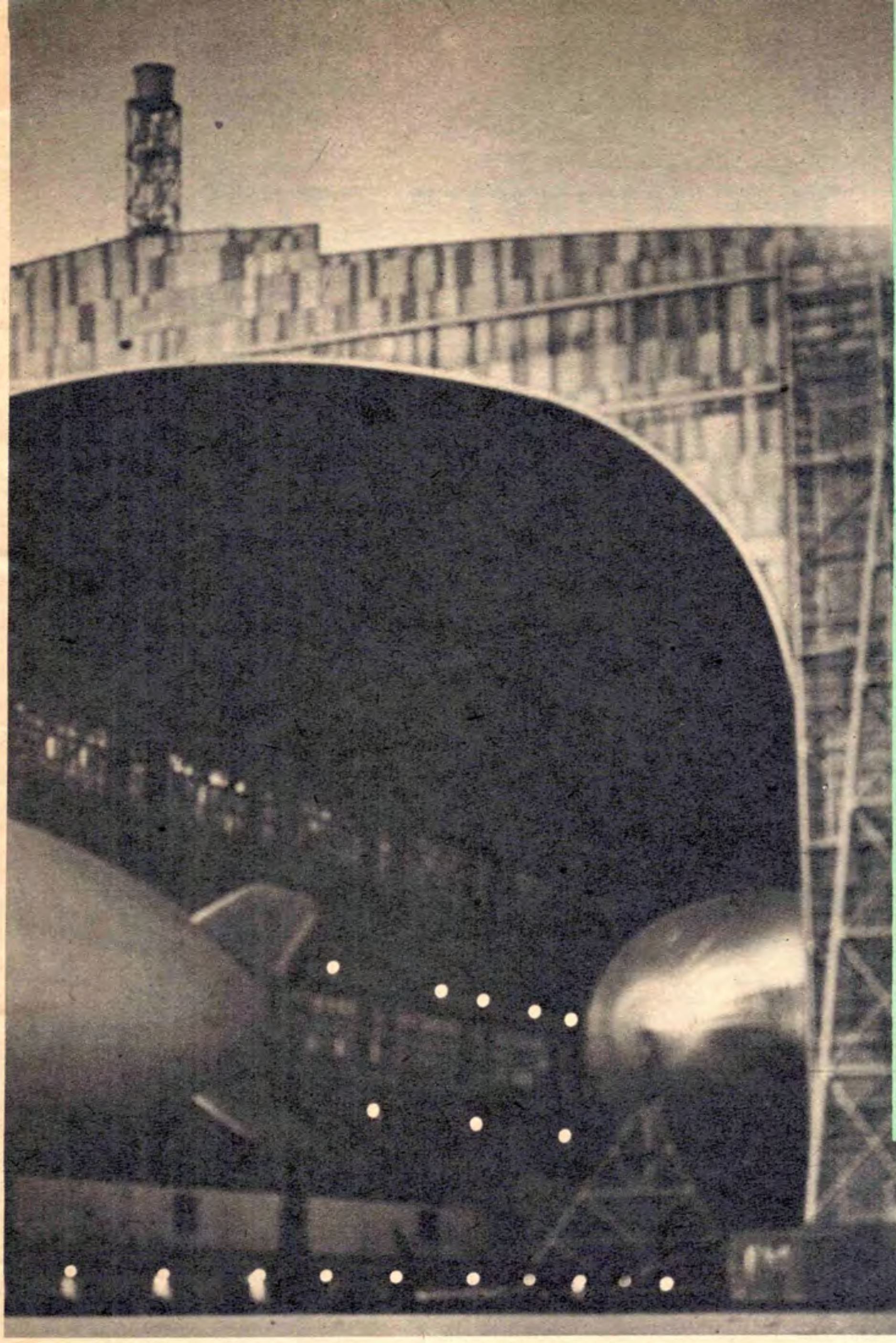


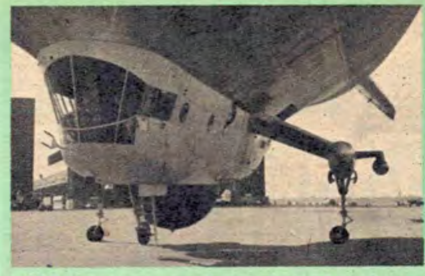


Starting the inflation process of a blimp bag. Shown here is the K-type, smaller than the ZPN. When the fabric bag is partially inflated, a rope mesh is put over it and weighted with sandbags.

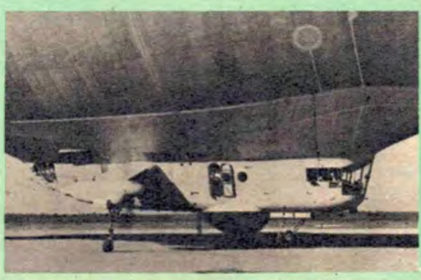


Rope mesh insures even inflation and prevents bag from turning over. Each sandbag weighs 35 lbs. 300 are used during inflation. By changing number and position of bags, envelope shape is controlled.

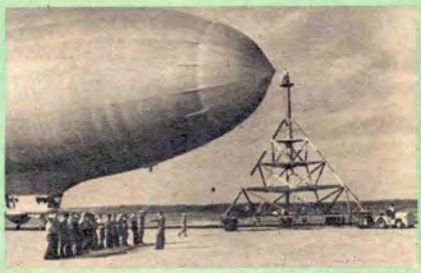




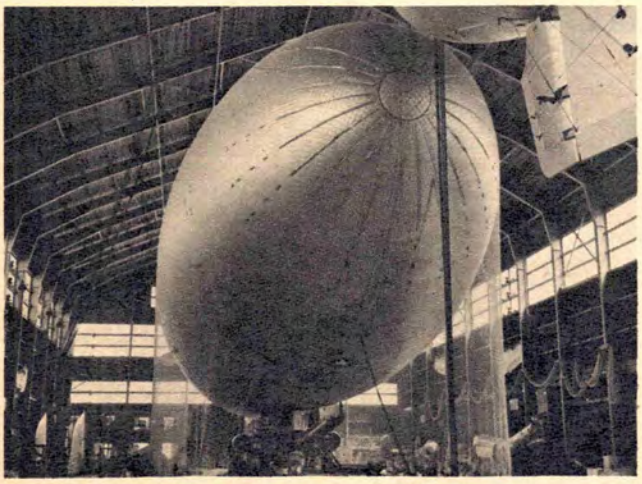
ZPN's engines are located inside of car, driving 2 18′ props via extension shafts.



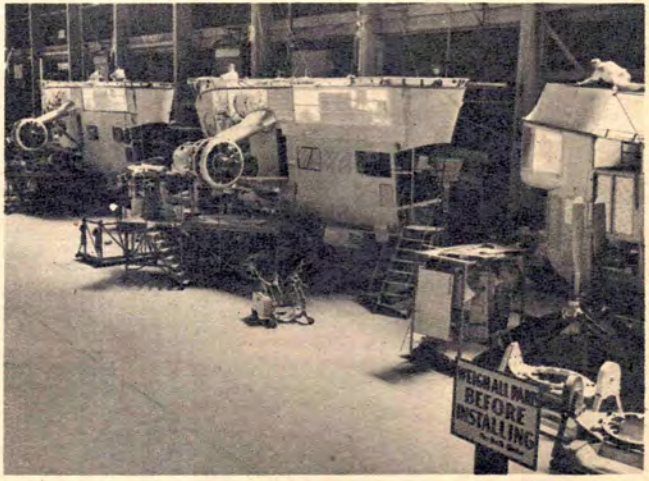
Close-up of Nan's 83 ft. car. Tricycle landing gear retractable. Note bottom radome.



At Lakehurst, N.J., NAS, where Nan is under test, she is moored to portable mast.



View of the ZPK type blimp with weighted rope mesh. The bag is fully inflated and the car is attached. Mesh has over 180,000 knots. It takes four hours to fully inflate a K-blimp, 10 for ZPN type.

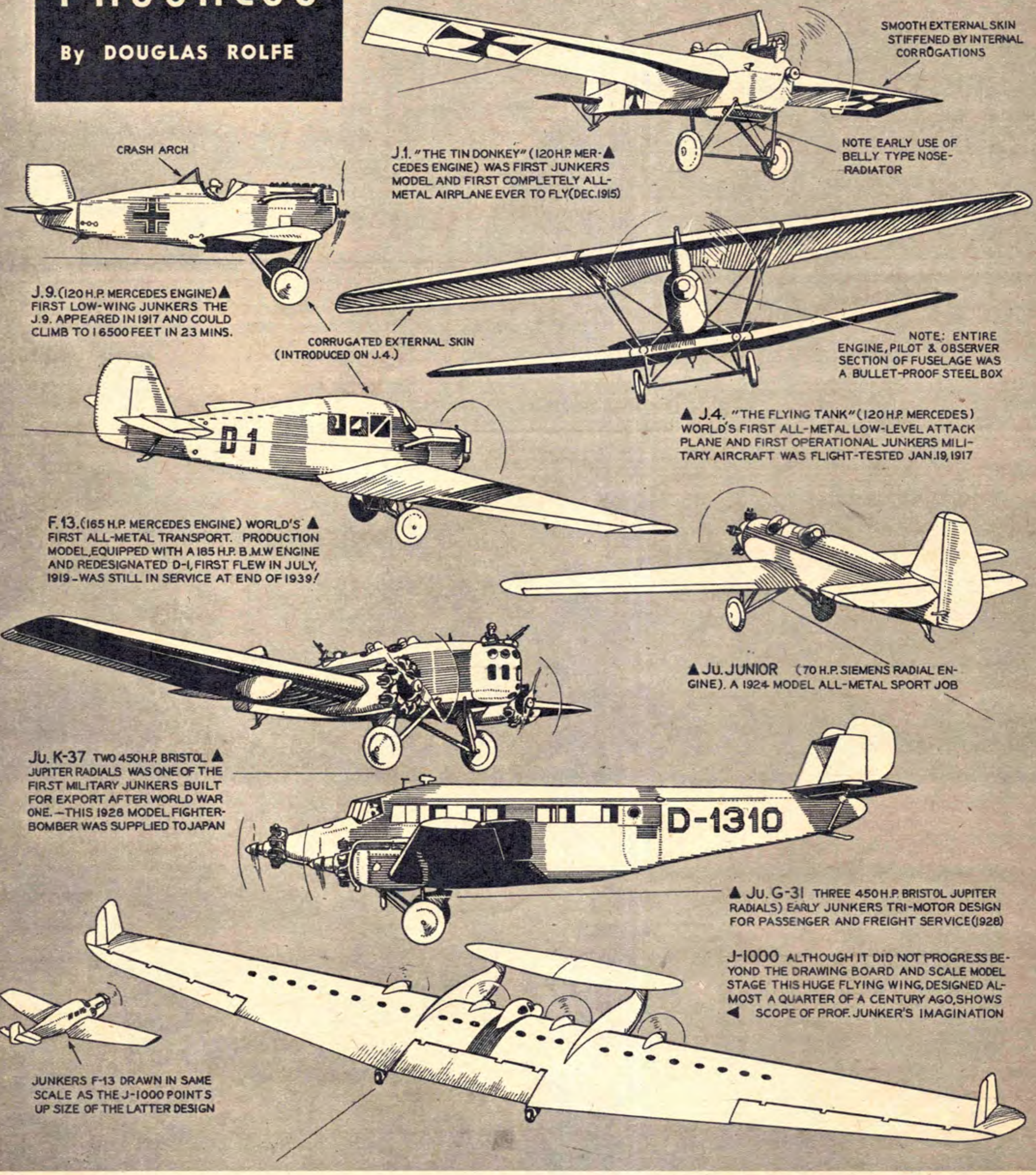


Part of the assembly line method of reconditioning, repairing and modifying gondolas. Blimps are completely torn down and overhauled every two years, each part being carefully weighed.

AIR PROGRESS

By DOUGLAS ROLFE

THE JUNKERS STORY


SMOOTH EXTERNAL SKIN STIFFENED BY INTERNAL CORRUGATIONS
NOTE EARLY USE OF BELLY TYPE NOSE-RADIATOR
CRASH ARCH
CORRUGATED EXTERNAL SKIN (INTRODUCED ON J.4.)
NOTE: ENTIRE ENGINE, PILOT & OBSERVER SECTION OF FUSELAGE WAS A BULLET-PROOF STEEL BOX
D 1
D-1310

J.1. "THE TIN DONKEY" (120 H.P. MERCEDES ENGINE) WAS FIRST JUNKERS MODEL AND FIRST COMPLETELY ALL-METAL AIRPLANE EVER TO FLY (DEC. 1915) ▲

J.9. (120 H.P. MERCEDES ENGINE) ▲ FIRST LOW-WING JUNKERS THE J.9. APPEARED IN 1917 AND COULD CLIMB TO 16500 FEET IN 23 MINS.

▲ J.4. "THE FLYING TANK" (120 H.P. MERCEDES) WORLD'S FIRST ALL-METAL LOW-LEVEL ATTACK PLANE AND FIRST OPERATIONAL JUNKERS MILITARY AIRCRAFT WAS FLIGHT-TESTED JAN. 19, 1917

F.13. (165 H.P. MERCEDES ENGINE) WORLD'S ▲ FIRST ALL-METAL TRANSPORT. PRODUCTION MODEL, EQUIPPED WITH A 185 H.P. B.M.W ENGINE AND REDESIGNATED D-1, FIRST FLEW IN JULY, 1919 - WAS STILL IN SERVICE AT END OF 1939!

▲ Ju. JUNIOR (70 H.P. SIEMENS RADIAL ENGINE). A 1924 MODEL ALL-METAL SPORT JOB

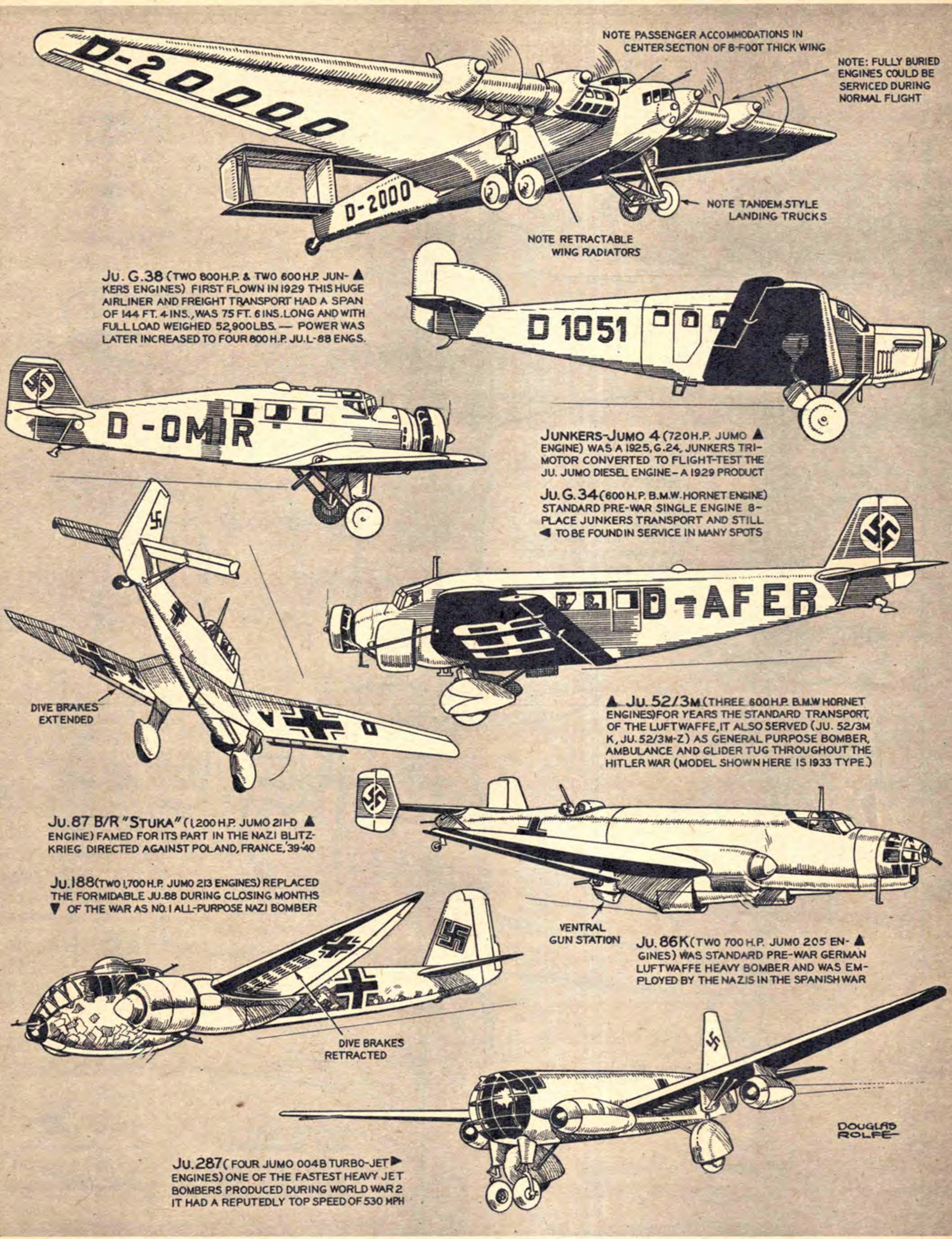
Ju. K-37 TWO 450 H.P. BRISTOL ▲ JUPITER RADIALS WAS ONE OF THE FIRST MILITARY JUNKERS BUILT FOR EXPORT AFTER WORLD WAR ONE. — THIS 1928 MODEL FIGHTER-BOMBER WAS SUPPLIED TO JAPAN

▲ Ju. G-31 THREE 450 H.P. BRISTOL JUPITER RADIALS) EARLY JUNKERS TRI-MOTOR DESIGN FOR PASSENGER AND FREIGHT SERVICE (1928)

J-1000 ALTHOUGH IT DID NOT PROGRESS BEYOND THE DRAWING BOARD AND SCALE MODEL STAGE THIS HUGE FLYING WING, DESIGNED ALMOST A QUARTER OF A CENTURY AGO, SHOWS ◀ SCOPE OF PROF. JUNKER'S IMAGINATION

JUNKERS F-13 DRAWN IN SAME SCALE AS THE J-1000 POINTS UP SIZE OF THE LATTER DESIGN

Although metal airframes date from around 1910 and although attempts were made to construct all-metal planes about the same time, the real father of the genuine all-metal airplane is Hugo Junkers, a professor of thermodynamics in Aachen, Germany, at the turn of the century. A curious combination of university professor and industrial engineer, he became interested in aviation in 1907 and was soon convinced that the future of the airplane lay in all-metal construction and that its function should be purely commercial. The fact his first successful designs were purely military types was due to the impact of World War I.


NOTE PASSENGER ACCOMMODATIONS IN CENTER SECTION OF 8-FOOT THICK WING
NOTE: FULLY BURIED ENGINES COULD BE SERVICED DURING NORMAL FLIGHT
NOTE TANDEM STYLE LANDING TRUCKS
NOTE RETRACTABLE WING RADIATORS
D-20000
D-2000
D 1051
D-OMIR
D-AFER
DIVE BRAKES EXTENDED
VENTRAL GUN STATION
DIVE BRAKES RETRACTED
DOUGLAS ROLFE

JU. G.38 (TWO 800 H.P. & TWO 600 H.P. JUNKERS ENGINES) FIRST FLOWN IN 1929 THIS HUGE AIRLINER AND FREIGHT TRANSPORT HAD A SPAN OF 144 FT. 4 INS., WAS 75 FT. 6 INS. LONG AND WITH FULL LOAD WEIGHED 52,900 LBS. — POWER WAS LATER INCREASED TO FOUR 800 H.P. JU. L-88 ENGS. ▲

JUNKERS-JUMO 4 (720 H.P. JUMO ENGINE) WAS A 1925, G.24, JUNKERS TRI-MOTOR CONVERTED TO FLIGHT-TEST THE JU. JUMO DIESEL ENGINE – A 1929 PRODUCT ▲

JU. G.34 (600 H.P. B.M.W. HORNET ENGINE) STANDARD PRE-WAR SINGLE ENGINE 8-PLACE JUNKERS TRANSPORT AND STILL ◀ TO BE FOUND IN SERVICE IN MANY SPOTS

▲ JU. 52/3M (THREE 600 H.P. B.M.W HORNET ENGINES) FOR YEARS THE STANDARD TRANSPORT OF THE LUFTWAFFE, IT ALSO SERVED (JU. 52/3M K, JU. 52/3M-Z) AS GENERAL PURPOSE BOMBER, AMBULANCE AND GLIDER TUG THROUGHOUT THE HITLER WAR (MODEL SHOWN HERE IS 1933 TYPE.)

JU. 87 B/R "STUKA" (1,200 H.P. JUMO 211-D ENGINE) FAMED FOR ITS PART IN THE NAZI BLITZKRIEG DIRECTED AGAINST POLAND, FRANCE, '39-'40 ▲

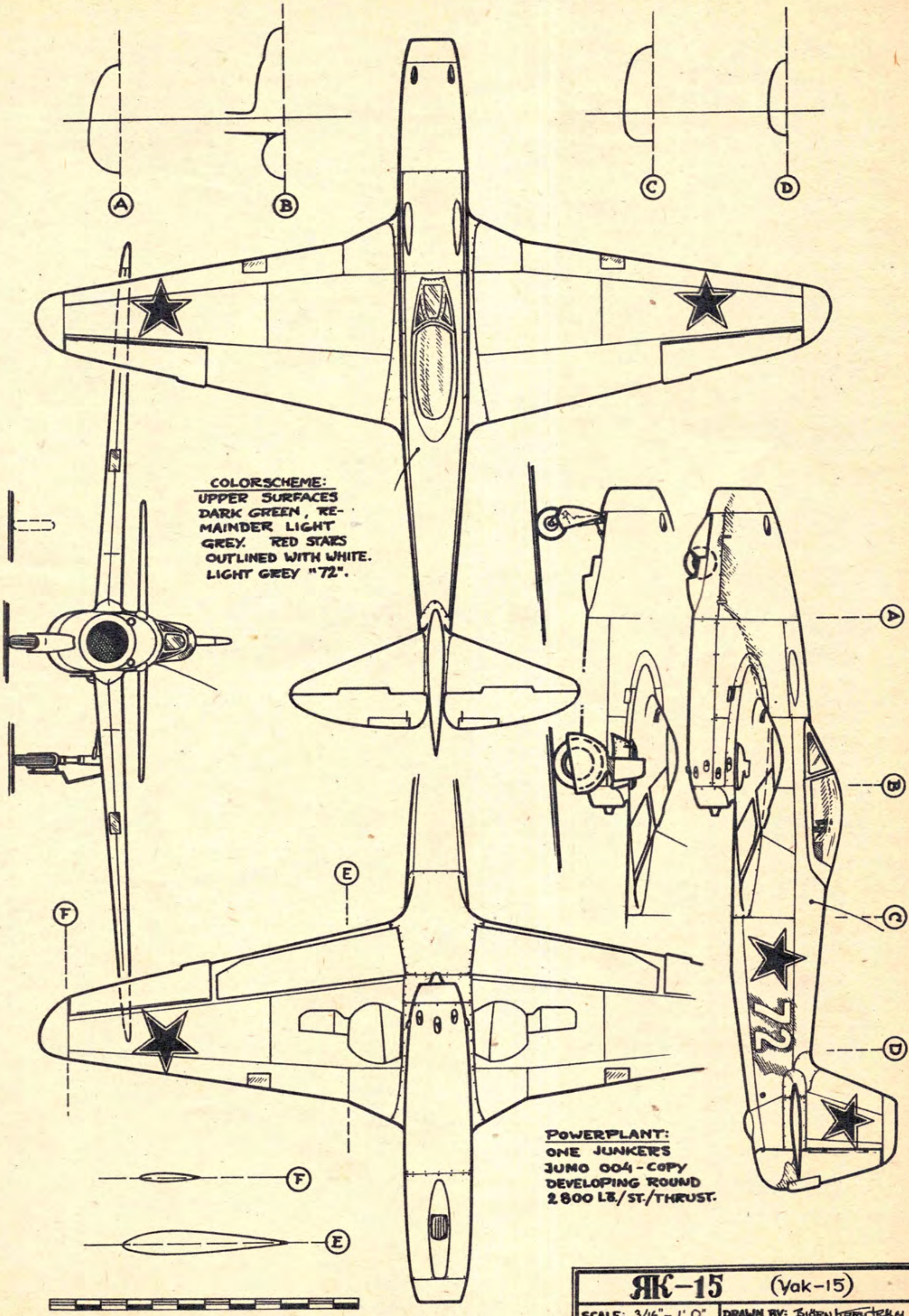
JU. 188 (TWO 1,700 H.P. JUMO 213 ENGINES) REPLACED THE FORMIDABLE JU. 88 DURING CLOSING MONTHS ▼ OF THE WAR AS NO. 1 ALL-PURPOSE NAZI BOMBER

JU. 86K (TWO 700 H.P. JUMO 205 ENGINES) WAS STANDARD PRE-WAR GERMAN LUFTWAFFE HEAVY BOMBER AND WAS EMPLOYED BY THE NAZIS IN THE SPANISH WAR ▲

JU. 287 (FOUR JUMO 004B TURBO-JET ENGINES) ONE OF THE FASTEST HEAVY JET BOMBERS PRODUCED DURING WORLD WAR 2 IT HAD A REPUTEDLY TOP SPEED OF 530 MPH ▶

" Even then he was thwarted at every turn by the indefatigable Fokker who, foreseeing a threat to his own products, persuaded the German authorities that the impractical professor needed the guidance of a businessman like himself. Thus, Junkers' designs were consistently sabotaged in favor of Fokker's.

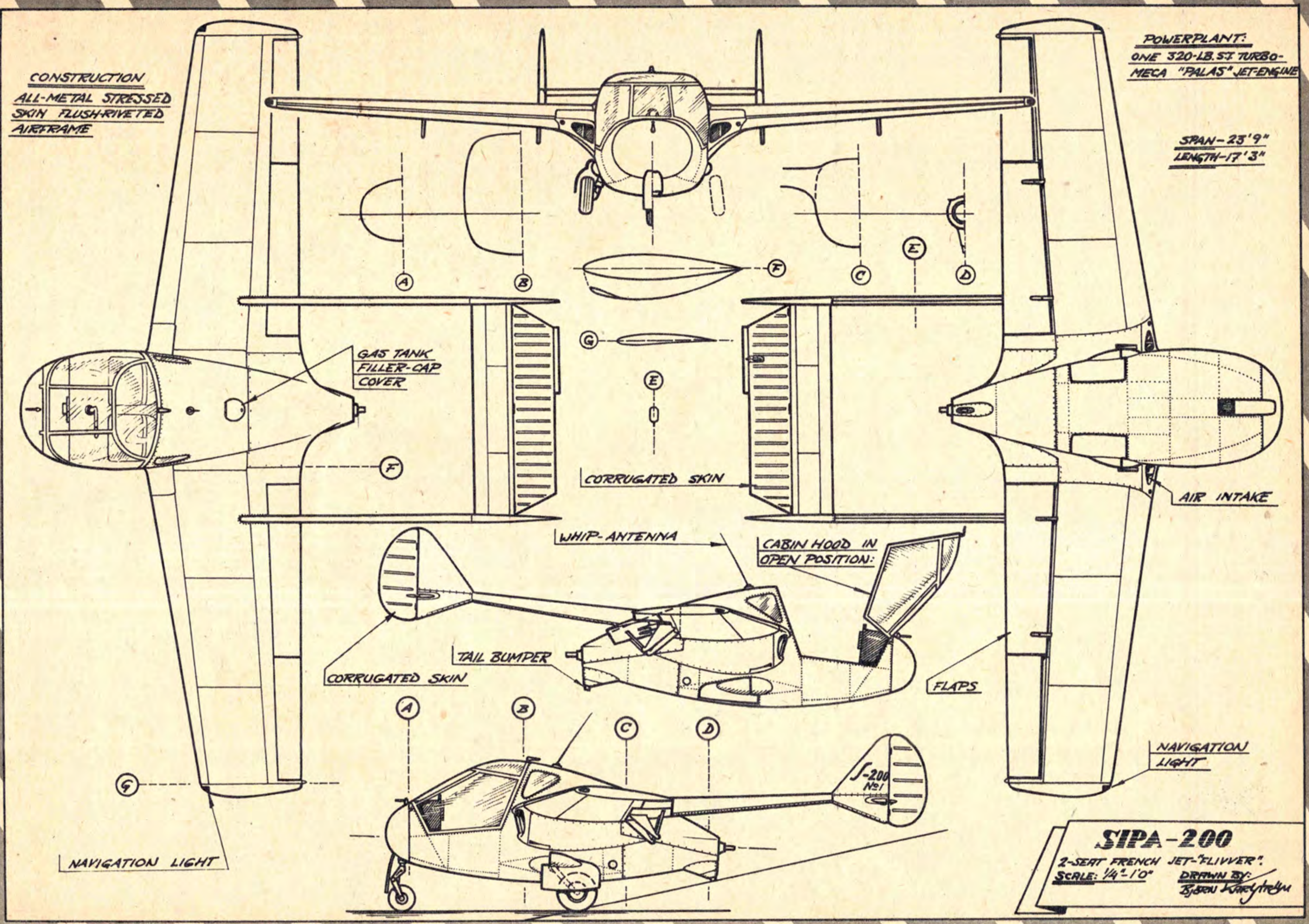
However, Hugo Junkers had a trick up his sleeve. Even while the war was on he had designed the J.13 (later redesignated the F.13 and still later registered as the D-1). In 1919 the F.13, world's first all-metal commercial air transport, was ready to fly, and it immediately became the outstanding airliner of its day.

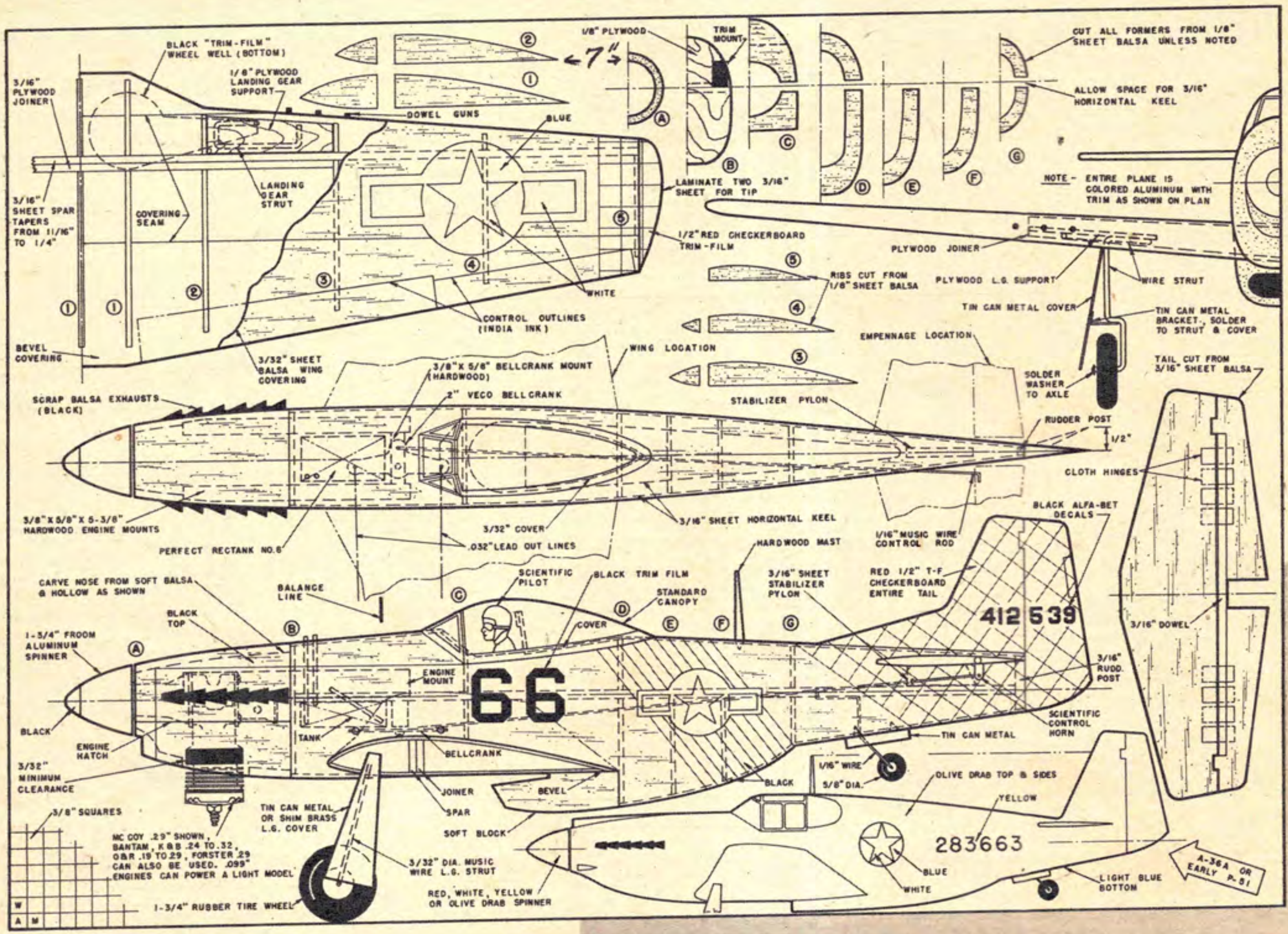


COLORSCHEME:
UPPER SURFACES DARK GREEN, REMAINDER LIGHT GREY. RED STARS OUTLINED WITH WHITE. LIGHT GREY "72".

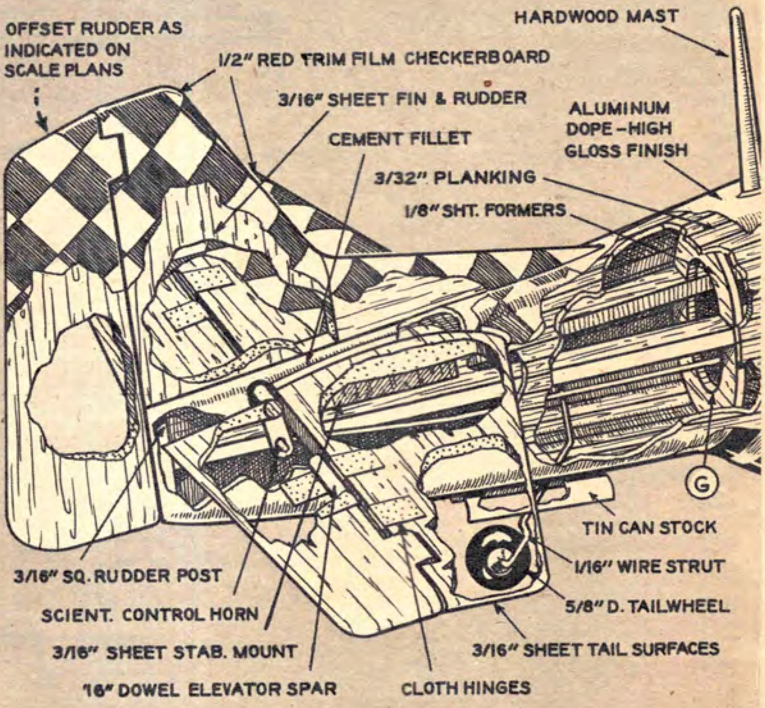
POWERPLANT:
ONE JUNKERS JUMO 004-COPY DEVELOPING ROUND 2 800 LB./ST./THRUST.

ЯК-15 (Yak-15)
SCALE: 3/16" - 1' 0"
DRAWN BY: Björn Karlström


CONSTRUCTION
ALL-METAL STRESSED SKIN FLUSH-RIVETED AIRFRAME
POWERPLANT:
ONE 320-LB. S.T. TURBO-MECA "PALAS" JET-ENGINE
SPAN-23'9"
LENGTH-17'3"
A
B
C
D
E
F
G
GAS TANK FILLER-CAP COVER
CORRUGATED SKIN
AIR INTAKE
WHIP-ANTENNA
CABIN HOOD IN OPEN POSITION:
TAIL BUMPER
CORRUGATED SKIN
FLAPS
NAVIGATION LIGHT
NAVIGATION LIGHT
S-200 No1
SIPA-200
2-SEAT FRENCH JET-"FLIVVER".
SCALE: 1/4"-1'0"
DRAWN BY:
Bjorn Karlstrom


BLACK "TRIM-FILM" WHEEL WELL (BOTTOM)
3/16" PLYWOOD JOINER
1/8" PLYWOOD LANDING GEAR SUPPORT
DOWEL GUNS
BLUE
LANDING GEAR STRUT
3/16" SHEET SPAR TAPERS FROM 11/16" TO 1/4"
COVERING SEAM
WHITE
CONTROL OUTLINES (INDIA INK)
BEVEL COVERING
3/32" SHEET BALSA WING COVERING
① ① ② ③ ④ ⑤
← 7" →
1/8" PLYWOOD
TRIM MOUNT
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ
CUT ALL FORMERS FROM 1/8" SHEET BALSA UNLESS NOTED
ALLOW SPACE FOR 3/16" HORIZONTAL KEEL
LAMINATE TWO 3/16" SHEET FOR TIP
NOTE - ENTIRE PLANE IS COLORED ALUMINUM WITH TRIM AS SHOWN ON PLAN
1/2" RED CHECKERBOARD TRIM-FILM
PLYWOOD JOINER
RIBS CUT FROM 1/8" SHEET BALSA
PLYWOOD L.G. SUPPORT
WIRE STRUT
TIN CAN METAL COVER
TIN CAN METAL BRACKET, SOLDER TO STRUT & COVER
EMPENNAGE LOCATION
WING LOCATION
SOLDER WASHER TO AXLE
TAIL CUT FROM 3/16" SHEET BALSA
3/8" X 5/8" BELLCRANK MOUNT (HARDWOOD)
2" VECO BELLCRANK
SCRAP BALSA EXHAUSTS (BLACK)
STABILIZER PYLON
RUDDER POST
1/2"
CLOTH HINGES
3/8" X 5/8" X 5-3/8" HARDWOOD ENGINE MOUNTS
3/32" COVER
3/16" SHEET HORIZONTAL KEEL
PERFECT RECTANK NO.6
.032" LEAD OUT LINES
HARDWOOD MAST
1/16" MUSIC WIRE CONTROL ROD
BLACK ALFA-BET DECALS
CARVE NOSE FROM SOFT BALSA & HOLLOW AS SHOWN
BALANCE LINE
SCIENTIFIC PILOT
BLACK TRIM FILM
STANDARD CANOPY
3/16" SHEET STABILIZER PYLON
RED 1/2" T-F CHECKERBOARD ENTIRE TAIL
412 539
BLACK TOP
1-3/4" FROOM ALUMINUM SPINNER
COVER
ENGINE MOUNT
66
3/16" DOWEL
3/16" RUDD. POST
SCIENTIFIC CONTROL HORN
BLACK
ENGINE HATCH
TANK
BELLCRANK
TIN CAN METAL
3/32" MINIMUM CLEARANCE
JOINER
BEVEL
1/16" WIRE
5/8" DIA.
OLIVE DRAB TOP & SIDES
3/8" SQUARES
TIN CAN METAL OR SHIM BRASS L.G. COVER
SPAR
YELLOW
SOFT BLOCK
MC COY .29" SHOWN, BANTAM, K&B .24 TO .32, O&R .19 TO .29, FORSTER .29 CAN ALSO BE USED. .099" ENGINES CAN POWER A LIGHT MODEL
3/32" DIA. MUSIC WIRE L.G. STRUT
283663
BLUE
WHITE
A-36A OR EARLY P-51
LIGHT BLUE BOTTOM
RED, WHITE, YELLOW OR OLIVE DRAB SPINNER
1-3/4" RUBBER TIRE WHEEL
W
A M

American P-51 Mustang


OFFSET RUDDER AS INDICATED ON SCALE PLANS
HARDWOOD MAST
1/2" RED TRIM FILM CHECKERBOARD
3/16" SHEET FIN & RUDDER
CEMENT FILLET
ALUMINUM DOPE-HIGH GLOSS FINISH
3/32" PLANKING
1/8" SHT. FORMERS
G
TIN CAN STOCK
3/16" SQ. RUDDER POST
1/16" WIRE STRUT
SCIENT. CONTROL HORN
5/8" D. TAILWHEEL
3/16" SHEET STAB. MOUNT
3/16" SHEET TAIL SURFACES
1/16" DOWEL ELEVATOR SPAR
CLOTH HINGES

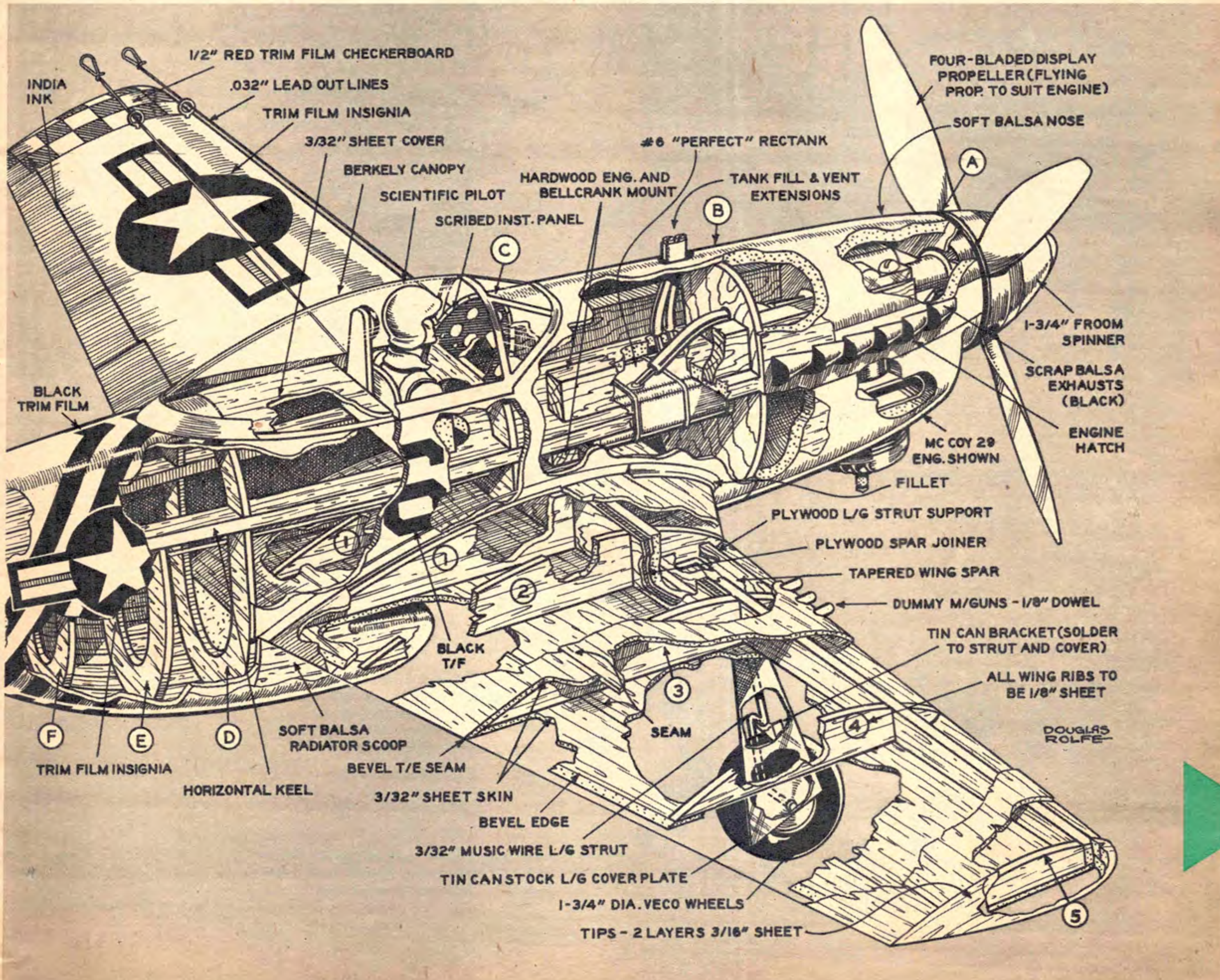
Full-size plans speed your building time. Plan #1252 from Air Trails has working drawings of Mustang, Spitfire and Messerschmitt—35¢.

Triple-Threat Treat for Scale Fans:

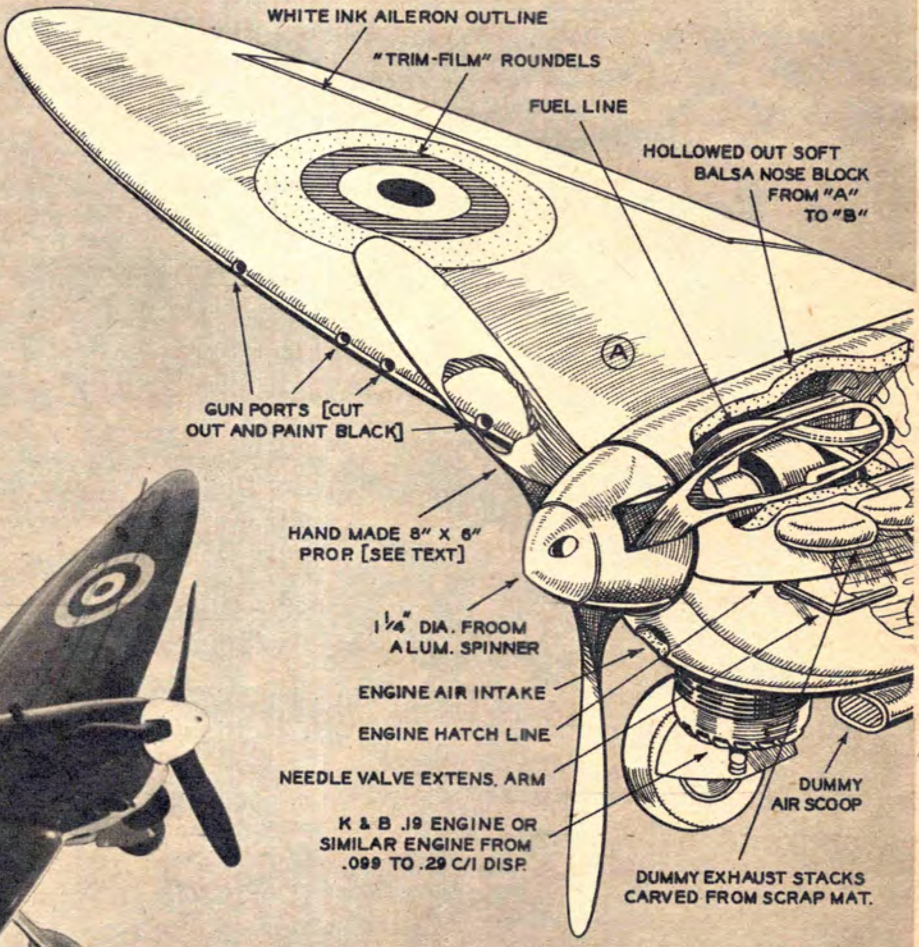
1–North American P-51 Mustang

2–Vickers Supermarine Spitfire Mk II

3–Messerschmitt 109E


1/2" RED TRIM FILM CHECKERBOARD
INDIA INK
.032" LEAD OUT LINES
TRIM FILM INSIGNIA
3/32" SHEET COVER
BERKELY CANOPY
SCIENTIFIC PILOT
SCRIBED INST. PANEL
HARDWOOD ENG. AND BELLCRANK MOUNT
#6 "PERFECT" RECTANK
TANK FILL & VENT EXTENSIONS
FOUR-BLADED DISPLAY PROPELLER (FLYING PROP. TO SUIT ENGINE)
SOFT BALSA NOSE
A
B
C
1-3/4" FROOM SPINNER
SCRAP BALSA EXHAUSTS (BLACK)
ENGINE HATCH
MC COY 29 ENG. SHOWN
FILLET
BLACK TRIM FILM
PLYWOOD L/G STRUT SUPPORT
PLYWOOD SPAR JOINER
TAPERED WING SPAR
DUMMY M/GUNS - 1/8" DOWEL
TIN CAN BRACKET (SOLDER TO STRUT AND COVER)
ALL WING RIBS TO BE 1/8" SHEET
1
2
3
4
5
BLACK T/F
SEAM
DOUGLAS ROLFE
F
E
D
SOFT BALSA RADIATOR SCOOP
TRIM FILM INSIGNIA
HORIZONTAL KEEL
BEVEL T/E SEAM
3/32" SHEET SKIN
BEVEL EDGE
3/32" MUSIC WIRE L/G STRUT
TIN CAN STOCK L/G COVER PLATE
1-3/4" DIA. VECO WHEELS
TIPS - 2 LAYERS 3/16" SHEET

For the first time you can build same-scale control line flying replicas of three top-notch World War II fighters; this trio will make a fascinating project for your club or contest flying.


WHITE INK AILERON OUTLINE
"TRIM-FILM" ROUNDELS
FUEL LINE
HOLLOWED OUT SOFT BALSA NOSE BLOCK FROM "A" TO "B"
A
GUN PORTS [CUT OUT AND PAINT BLACK]
HAND MADE 8" X 6" PROP. [SEE TEXT]
1 1/4" DIA. FROOM ALUM. SPINNER
ENGINE AIR INTAKE
ENGINE HATCH LINE
NEEDLE VALVE EXTENS. ARM
K & B .19 ENGINE OR SIMILAR ENGINE FROM .099 TO .29 C/I DISP.
DUMMY AIR SCOOP
DUMMY EXHAUST STACKS CARVED FROM SCRAP MAT.

Full-size plans speed your building time. Plan #1252 from Air Trails has working drawings of Spitfire, Mustang and Messerschmitt—35¢.

Designer Walt Musciano, famous for his scale model work, here test-hops the Spit in front of his Fort Lee, N. J., home. Six months' preparation went into the development of these three model, which included Walt's efforts, those of Douglas Rolfe, "King of the Cutaways," and the photographer. These same-scale models vividly show differences in the big ships.

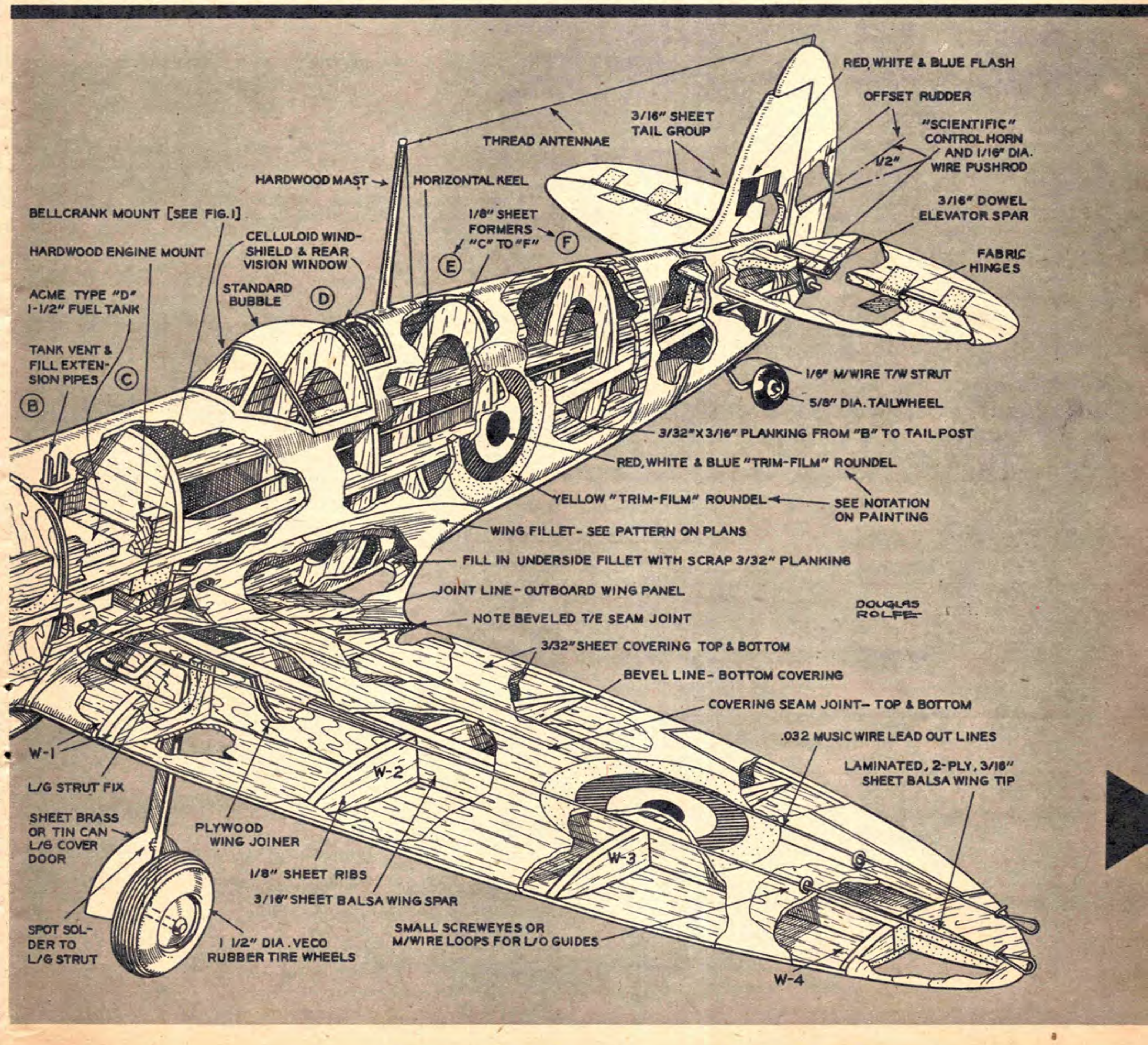
Spitfire

By WALTER A. MUSCIANO

Messerschmitt Me-109E. Contrary to popular belief, the Messerschmitt fighters were not slipshod jobs. The Me-109 was designed in accordance with Ernst Udet's theory of the ideal fighter plane. This included: high speed, light weight, no armor, self-sealing tanks and moderate fire power with good climbing and diving ability. Although the first Me-109 was inspired by the Me-108 high-performance sport plane (1937 Isle of Man Race winner), it was built by the Bavarian Airplane Works (B.F.W.) and designated BF-113. This prototype astounded witnesses at the Zurich Air Competition by its high performance in the climb and dive division as well as in other classes.

Subsequent modifications ranged from 109A to 109D. All of these were powered by Junkers Jumo 210 engines ranging from 610 to 750 horsepower which required only the fuselage radiator (see plans) and began with a service speed of approx. 280 mph. The original three machine guns were increased to four. In the fall of 1938 the Me-109E was born. A large Daimler-Benz 1150 hp fuel injection engine was installed and the wing radiators were added to adequately cool this powerplant. Two wing cannons were added. Service speed jumped to 360 mph. Escort radius of the "E" was 75 miles which could be increased to 150 miles with a 66-gallon jettisonable tank. This model became the fighter backbone of the German Air Force throughout World War II. Some minor modifications were made here and there such as the sporadic use of armor plate.

Piloting a racing version of 109, Fritz Wendel in April 1939 broke world speed record with 481.4 mph.


RED, WHITE & BLUE FLASH
OFFSET RUDDER
"SCIENTIFIC" CONTROL HORN AND 1/16" DIA. WIRE PUSHROD
1/2"
3/16" SHEET TAIL GROUP
THREAD ANTENNAE
HARDWOOD MAST
HORIZONTAL KEEL
3/16" DOWEL ELEVATOR SPAR
FABRIC HINGES
BELLCRANK MOUNT [SEE FIG. I]
1/8" SHEET FORMERS "C" TO "F"
F
E
HARDWOOD ENGINE MOUNT
CELLULOID WIND-SHIELD & REAR VISION WINDOW
STANDARD BUBBLE
D
ACME TYPE "D" 1-1/2" FUEL TANK
TANK VENT & FILL EXTENSION PIPES
C
B
1/16" M/WIRE T/W STRUT
5/8" DIA. TAILWHEEL
3/32"X3/16" PLANKING FROM "B" TO TAILPOST
RED, WHITE & BLUE "TRIM-FILM" ROUNDEL
YELLOW "TRIM-FILM" ROUNDEL
SEE NOTATION ON PAINTING
WING FILLET - SEE PATTERN ON PLANS
FILL IN UNDERSIDE FILLET WITH SCRAP 3/32" PLANKING
JOINT LINE - OUTBOARD WING PANEL
NOTE BEVELED T/E SEAM JOINT
DOUGLAS ROLFE
3/32" SHEET COVERING TOP & BOTTOM
BEVEL LINE - BOTTOM COVERING
COVERING SEAM JOINT - TOP & BOTTOM
.032 MUSIC WIRE LEAD OUT LINES
LAMINATED, 2-PLY, 3/16" SHEET BALSA WING TIP
W-1
W-2
W-3
W-4
L/G STRUT FIX
SHEET BRASS OR TIN CAN L/G COVER DOOR
PLYWOOD WING JOINER
1/8" SHEET RIBS
3/16" SHEET BALSA WING SPAR
SPOT SOLDER TO L/G STRUT
1 1/2" DIA. VECO RUBBER TIRE WHEELS
SMALL SCREWEYES OR M/WIRE LOOPS FOR L/O GUIDES

Triple-Threat Treat (Cont.)

Vickers Spitfire Mk-2. This hero of the "Battle for Britain" was the result of many years of research and experience with high-speed aircraft. Reginald J. Mitchell, who designed such famous planes as the Supermarine S-6B, literally gave his life in designing the Spitfire. So certain was this engineer of the war to come that he realized the urgent need for a super fighting plane and therefore spent countless sleepless nights at his drawing board in order to complete the design. This effort so undermined his health that he never lived to see the plane in action.

Even though the number of Spitfires available at the "Battle" were few, they were sufficient to occupy the Messerschmitt protection and thereby allowed the older Hurricanes to get at the German bombers.

Power of this fighter ranges from the 1050 hp Rolls-Royce Merlin to Rolls-Royce Griffin of over 2000 hp in the latest models including "Mark Twenty-five." The "Mark Two" is probably the most famous and was used in the Battle and throughout the war in all theaters. These and subsequent modifications were utilized as desert fighters (see plans for desert fighter air filter nose modifications), ground attack planes, carrier fighters, cataplanes (without landing gear), high altitude interceptors and on reconnaissance missions as well as for bomber escort.

Speed is generally considered to be in the neighborhood of 365 mph and up and, although the ceiling is considered to be not more than 45,000 feet, the records show that a Spitfire once reached 50,000 feet in an attempt to down a German high-altitude reconnaissance plane! Just think, this plane was on the drawing boards in 1934! Armament began with eight machine guns. This has been altered to two cannon and four guns and then to four cannon. It can also carry two 250-pound bombs. In both performance and appearance the Spitfire is one of the world's most beautiful airplanes.

Our ¾"-to-the-foot scale model is perfect with engines from .099" to .19 for sport, and will take a .29 for some speedy flying. Construction is rugged and the model will fall together with ease if instructions are followed.

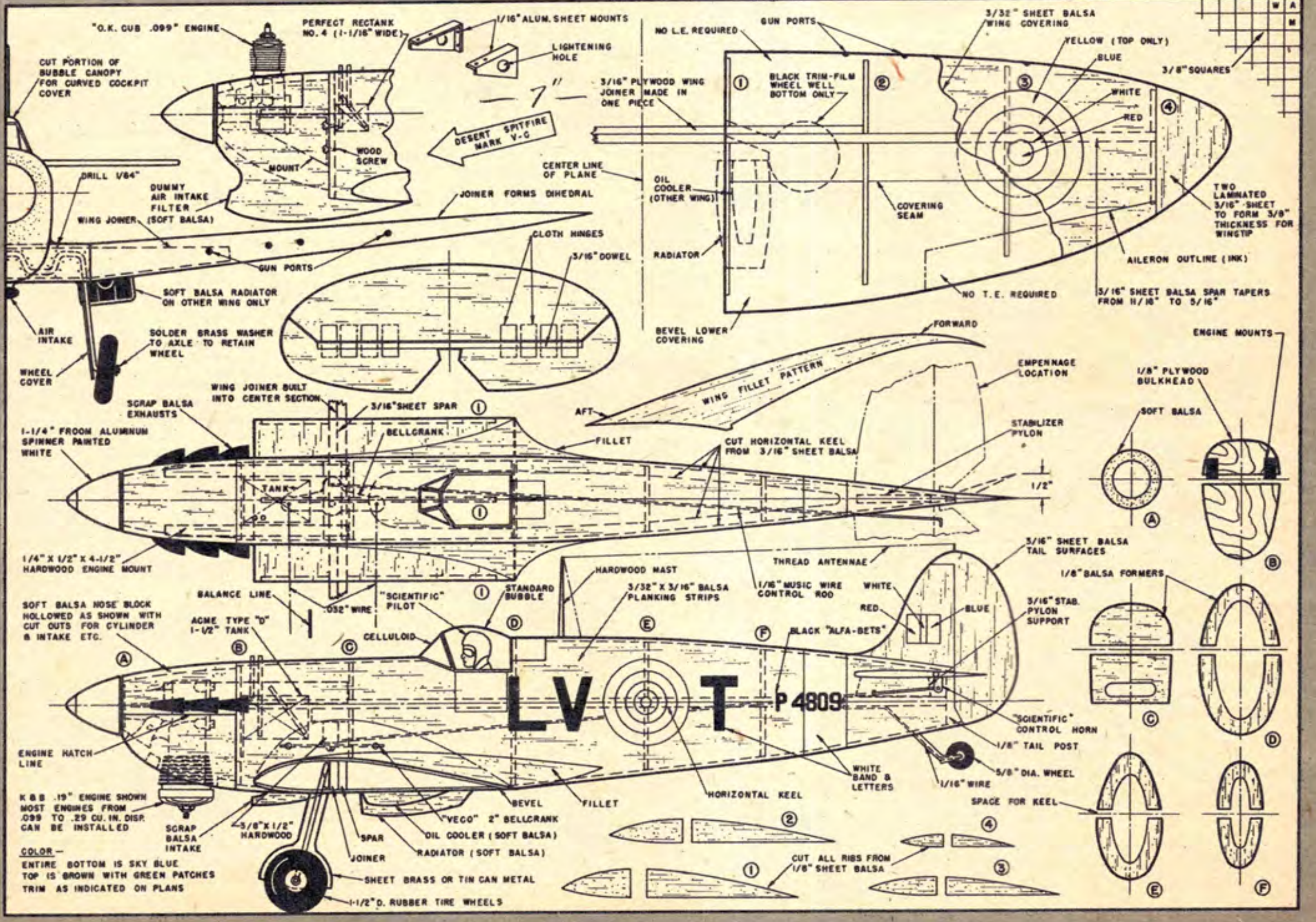
North American Mustang. While our Lightnings and Thunderbolts were tangling with the Messerschmitts and Zeros, a new U. S. fighter was in the process of development. Originally built for the British as a fast reconnaissance plane, the Mustang was first called the NA-73 "Apache." It was then converted for ground attack use and we designated it A-36a. (See plans.) Both these models were powered with the 1050 hp Allison engine. The A-36a planes were camouflaged with grey-blue bottoms and olive drab tops. The change which did most for this craft was the installation of the Rolls-Royce Merlin engine of 1500 hp. The P-51 then became the "fastest fighter in the world" and still maintained its excellent maneuverability.

This plane is still the proud owner of the title "world's fastest propeller-driven plane" and has performed with excellence in the Korean conflict. Countless speed records have been shattered and air races won by war-surplus Mustangs.

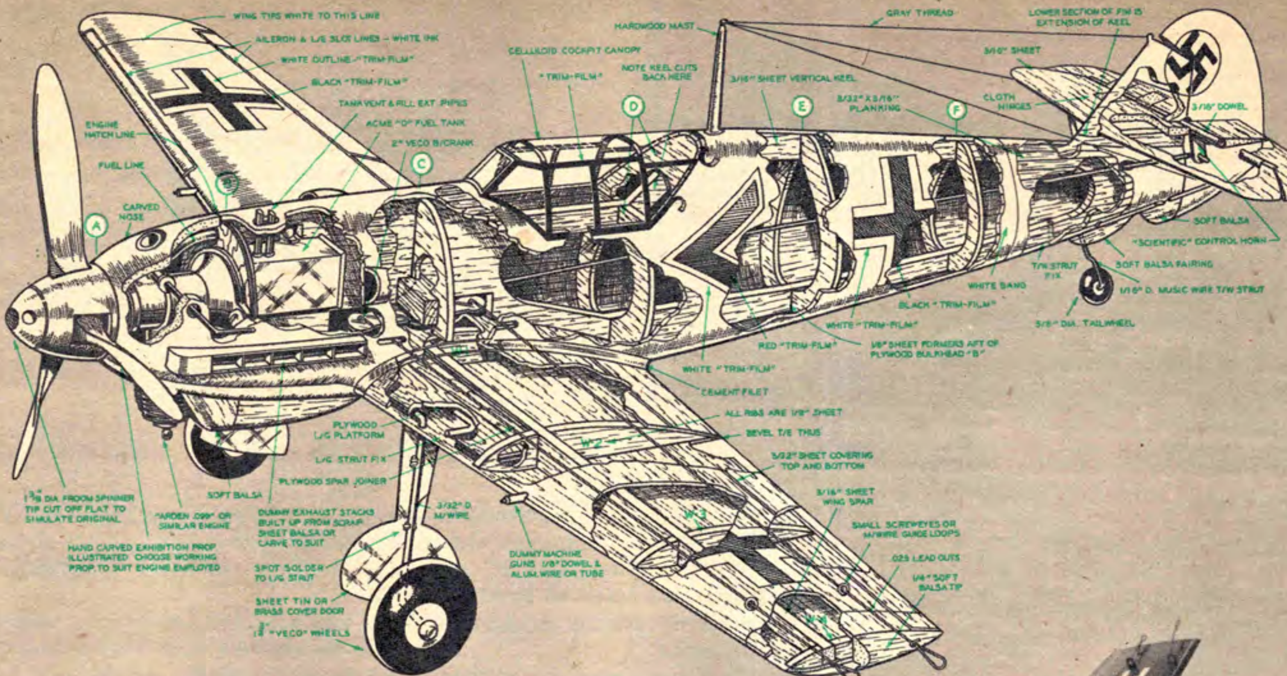
Our model is a replica of the P-51K-10-NT and is built to ¾"-to-the foot scale.

Procured during 1944-45, 1337 P-51K airplanes were built. The Packard V-1650-7 engine of 1490 hp, swinging an Aeroprop propeller, pulled the craft through the air at 465 mph! Gross weight is 11,000 lbs.

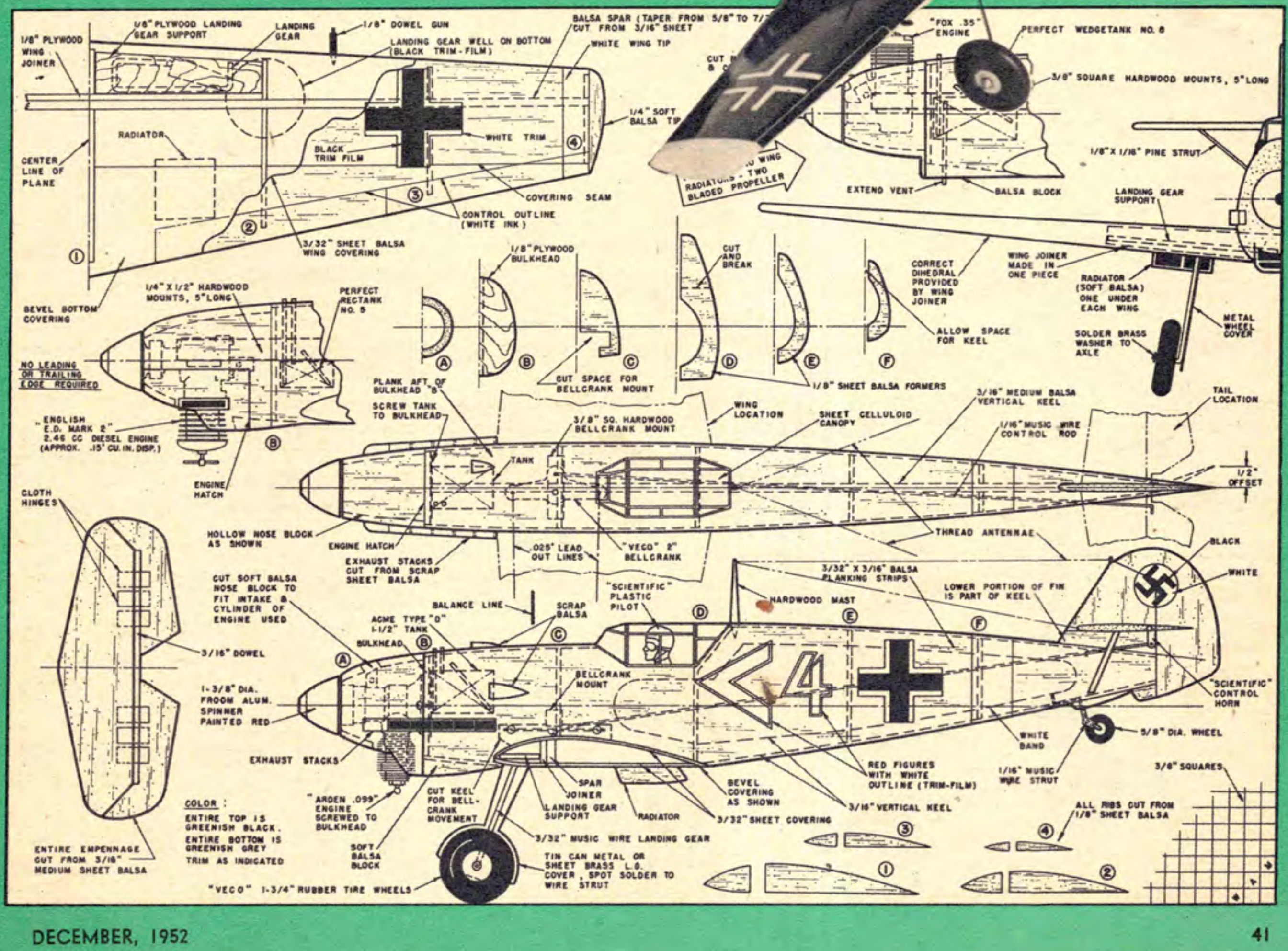
Spitfire


"O.K. CUB .099" ENGINE
PERFECT RECTANK NO. 4 (1-1/16" WIDE)
1/16" ALUM. SHEET MOUNTS
LIGHTENING HOLE
CUT PORTION OF BUBBLE CANOPY FOR CURVED COCKPIT COVER
7"
3/16" PLYWOOD WING JOINER MADE IN ONE PIECE
DESERT SPITFIRE MARK V-C
WOOD SCREW
MOUNT
DRILL 1/64"
DUMMY AIR INTAKE FILTER (SOFT BALSA)
WING JOINER
CENTER LINE OF PLANE
JOINER FORMS DIHEDRAL
GUN PORTS
CLOTH HINGES
3/16" DOWEL
SOFT BALSA RADIATOR ON OTHER WING ONLY
AIR INTAKE
SOLDER BRASS WASHER TO AXLE TO RETAIN WHEEL
WHEEL COVER
NO L.E. REQUIRED
GUN PORTS
3/32" SHEET BALSA WING COVERING
YELLOW (TOP ONLY)
BLUE
WHITE
RED
3/8" SQUARES
W A M
① ② ③ ④
BLACK TRIM-FILM WHEEL WELL BOTTOM ONLY
OIL COOLER (OTHER WING)
COVERING SEAM
RADIATOR
TWO LAMINATED 3/16" SHEET TO FORM 3/8" THICKNESS FOR WINGTIP
AILERON OUTLINE (INK)
NO T. E. REQUIRED
3/16" SHEET BALSA SPAR TAPERS FROM 11/16" TO 5/16"
BEVEL LOWER COVERING
FORWARD
WING FILLET PATTERN
AFT
EMPENNAGE LOCATION
ENGINE MOUNTS
1/8" PLYWOOD BULKHEAD
SOFT BALSA
WING JOINER BUILT INTO CENTER SECTION
SCRAP BALSA EXHAUSTS
3/16" SHEET SPAR ①
1-1/4" FROOM ALUMINUM SPINNER PAINTED WHITE
BELLCRANK
FILLET
TANK
CUT HORIZONTAL KEEL FROM 3/16" SHEET BALSA
STABILIZER PYLON
1/2"
Ⓐ
1/4" X 1/2" X 4-1/2" HARDWOOD ENGINE MOUNT
THREAD ANTENNAE
3/16" SHEET BALSA TAIL SURFACES
Ⓑ
HARDWOOD MAST
1/8" BALSA FORMERS
BALANCE LINE
.032" WIRE
"SCIENTIFIC" PILOT
STANDARD BUBBLE
3/32" X 3/16" BALSA PLANKING STRIPS
1/16" MUSIC WIRE CONTROL ROD
WHITE
RED
BLUE
SOFT BALSA NOSE BLOCK HOLLOWED AS SHOWN WITH CUT OUTS FOR CYLINDER & INTAKE ETC.
ACME TYPE "D" 1-1/2" TANK
CELLULOID
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ
BLACK "ALFA-BETS"
3/16" STAB. PYLON SUPPORT
LV T
P 4809
"SCIENTIFIC" CONTROL HORN
Ⓒ
Ⓓ
ENGINE HATCH LINE
1/8" TAIL POST
WHITE BAND & LETTERS
5/8" DIA. WHEEL
1/16" WIRE
HORIZONTAL KEEL
K & B .19" ENGINE SHOWN MOST ENGINES FROM .099 TO .29 CU. IN. DISP. CAN BE INSTALLED
BEVEL
FILLET
SPACE FOR KEEL
"VECO" 2" BELLCRANK
②
④
SCRAP BALSA INTAKE
3/8" X 1/2" HARDWOOD
SPAR
OIL COOLER (SOFT BALSA)
RADIATOR (SOFT BALSA)
JOINER
①
CUT ALL RIBS FROM 1/8" SHEET BALSA
③
SHEET BRASS OR TIN CAN METAL
1-1/2" D. RUBBER TIRE WHEELS
Ⓔ
Ⓕ

COLOR —
ENTIRE BOTTOM IS SKY BLUE
TOP IS BROWN WITH GREEN PATCHES
TRIM AS INDICATED ON PLANS

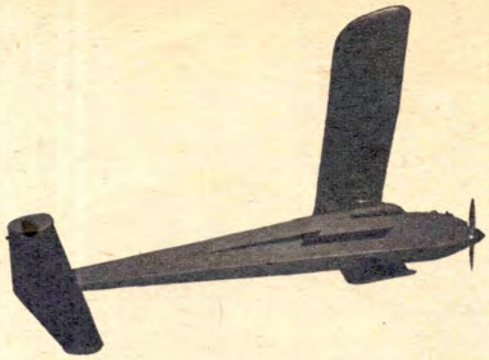

WING TIPS WHITE TO THIS LINE
AILERON & L/G SLOT LINES – WHITE INK
WHITE OUTLINE–"TRIM-FILM"
BLACK "TRIM-FILM"
TANK VENT & FILL EXT. PIPES
ACME "D" FUEL TANK
2" VECO B/CRANK
ENGINE HATCH LINE
FUEL LINE
CARVED NOSE
A
B
C
CELLULOID COCKPIT CANOPY
"TRIM-FILM"
NOTE KEEL CUTS BACK HERE
D
HARDWOOD MAST
GRAY THREAD
3/16" SHEET VERTICAL KEEL
E
3/32" X 3/16" PLANKING
F
LOWER SECTION OF FIN IS EXTENSION OF KEEL
3/16" SHEET
CLOTH HINGES
3/16" DOWEL
SOFT BALSA
"SCIENTIFIC" CONTROL HORN
SOFT BALSA FAIRING
T/W STRUT FIX
1/16" D. MUSIC WIRE T/W STRUT
WHITE BAND
BLACK "TRIM-FILM"
5/8" DIA. TAILWHEEL
WHITE "TRIM-FILM"
RED "TRIM-FILM"
1/8" SHEET FORMERS AFT OF PLYWOOD BULKHEAD "B"
WHITE "TRIM-FILM"
CEMENT FILET
ALL RIBS ARE 1/8" SHEET
BEVEL T/E THUS
W-2
3/32" SHEET COVERING TOP AND BOTTOM
3/16" SHEET WING SPAR
W-3
SMALL SCREWEYES OR M/WIRE GUIDE LOOPS
.025 LEAD OUTS
1/4" SOFT BALSA TIP
W-4
PLYWOOD L/G PLATFORM
L/G STRUT FIX
PLYWOOD SPAR JOINER
SOFT BALSA
3/32" D. M/WIRE
1 3/8 DIA. FROOM SPINNER TIP CUT OFF FLAT TO SIMULATE ORIGINAL
"ARDEN .099" OR SIMILAR ENGINE
DUMMY EXHAUST STACKS BUILT UP FROM SCRAP SHEET BALSA OR CARVE TO SUIT
HAND CARVED EXHIBITION PROP ILLUSTRATED. CHOOSE WORKING PROP. TO SUIT ENGINE EMPLOYED
SPOT SOLDER TO L/G STRUT
SHEET TIN OR BRASS COVER DOOR
1 3/4" "VECO" WHEELS
DUMMY MACHINE GUNS 1/8" DOWEL & ALUM. WIRE OR TUBE

Full-size plans speed your building time. Plan #1252 from Air Trails has working drawings of Messerschmitt, Mustang and Spitfire—and the cost is but 35¢.


1/8" PLYWOOD LANDING GEAR SUPPORT
LANDING GEAR
1/8" DOWEL GUN
BALSA SPAR (TAPER FROM 5/8" TO 7/
CUT FROM 3/16" SHEET
1/8" PLYWOOD WING JOINER
LANDING GEAR WELL ON BOTTOM (BLACK TRIM-FILM)
WHITE WING TIP
1/4" SOFT BALSA TIP
RADIATOR
WHITE TRIM
BLACK TRIM FILM
CENTER LINE OF PLANE
COVERING SEAM
CONTROL OUTLINE (WHITE INK)
3/32" SHEET BALSA WING COVERING
BEVEL BOTTOM COVERING
① ② ③ ④
"FOX .35" ENGINE
PERFECT WEDGETANK NO. 8
3/8" SQUARE HARDWOOD MOUNTS, 5" LONG
CUT
RADIATORS – TWO BLADED PROPELLER
EXTEND VENT
BALSA BLOCK
1/8" X 1/16" PINE STRUT
LANDING GEAR SUPPORT
WING JOINER MADE IN ONE PIECE
CORRECT DIHEDRAL PROVIDED BY WING JOINER
RADIATOR (SOFT BALSA) ONE UNDER EACH WING
SOLDER BRASS WASHER TO AXLE
METAL WHEEL COVER
1/4" X 1/2" HARDWOOD MOUNTS, 5" LONG
PERFECT RECTANK NO. 5
NO LEADING OR TRAILING EDGE REQUIRED
"ENGLISH E.D. MARK 2" 2.46 CC DIESEL ENGINE (APPROX. .15" CU. IN. DISP.)
ENGINE HATCH
1/8" PLYWOOD BULKHEAD
CUT AND BREAK
A B C D E F
CUT SPACE FOR BELLCRANK MOUNT
ALLOW SPACE FOR KEEL
1/8" SHEET BALSA FORMERS
PLANK AFT OF BULKHEAD "B"
SCREW TANK TO BULKHEAD
3/8" SQ. HARDWOOD BELLCRANK MOUNT
TANK
WING LOCATION
SHEET CELLULOID CANOPY
3/16" MEDIUM BALSA VERTICAL KEEL
1/16" MUSIC WIRE CONTROL ROD
TAIL LOCATION
1/2" OFFSET
HOLLOW NOSE BLOCK AS SHOWN
ENGINE HATCH
EXHAUST STACKS CUT FROM SCRAP SHEET BALSA
.025" LEAD OUT LINES
"VECO" 2" BELLCRANK
THREAD ANTENNAE
CLOTH HINGES
3/16" DOWEL
CUT SOFT BALSA NOSE BLOCK TO FIT INTAKE & CYLINDER OF ENGINE USED
BALANCE LINE
SCRAP BALSA
"SCIENTIFIC" PLASTIC PILOT
HARDWOOD MAST
3/32" X 3/16" BALSA PLANKING STRIPS
LOWER PORTION OF FIN IS PART OF KEEL
BLACK
WHITE
ACME TYPE "D" 1-1/2" TANK
BULKHEAD
BELLCRANK MOUNT
1-3/8" DIA. FROOM ALUM. SPINNER PAINTED RED
EXHAUST STACKS
"SCIENTIFIC" CONTROL HORN
5/8" DIA. WHEEL
WHITE BAND
1/16" MUSIC WIRE STRUT
RED FIGURES WITH WHITE OUTLINE (TRIM-FILM)
3/16" VERTICAL KEEL
3/32" SHEET COVERING
BEVEL COVERING AS SHOWN
RADIATOR
SPAR JOINER
LANDING GEAR SUPPORT
CUT KEEL FOR BELL-CRANK MOVEMENT
"ARDEN .099" ENGINE SCREWED TO BULKHEAD
SOFT BALSA BLOCK
3/32" MUSIC WIRE LANDING GEAR
TIN CAN METAL OR SHEET BRASS L.G. COVER, SPOT SOLDER TO WIRE STRUT
"VECO" 1-3/4" RUBBER TIRE WHEELS
3/8" SQUARES
ALL RIBS CUT FROM 1/8" SHEET BALSA
COLOR:
ENTIRE TOP IS GREENISH BLACK.
ENTIRE BOTTOM IS GREENISH GREY
TRIM AS INDICATED
ENTIRE EMPENNAGE CUT FROM 3/16" MEDIUM SHEET BALSA

Messerschmitt

Lightning



■ There is nothing more spectacular in a free flight design than an outstanding rate of climb, and if this could be coupled with at least an average glide the results would add up to sensational.

With our sights aimed at just such a goal we took to the drawing board to see what could be done about evolving a design to fill the bill. The approach we decided upon was a model with about half the wing area normally used for an .074 Cub. Of course, we were then confronted with the problem of controlling such relatively high power; for a design like this might normally be susceptible to spinning in if that old bugaboo torque were not under control.

This led us to the idea of using a generously swept-forward wing as a means of better controlling the torque. We were thus prompted by knowledge of such a wing's inherent characteristic in a turn. What happens is that in a turn the inside panel being in a more direct flow of air creates more lift than the outside panel, the result of which is a force counteracting an excessive buildup in a turn. The effectiveness of such an arrangement would be naturally dependent on just how much the wings were swept forward.

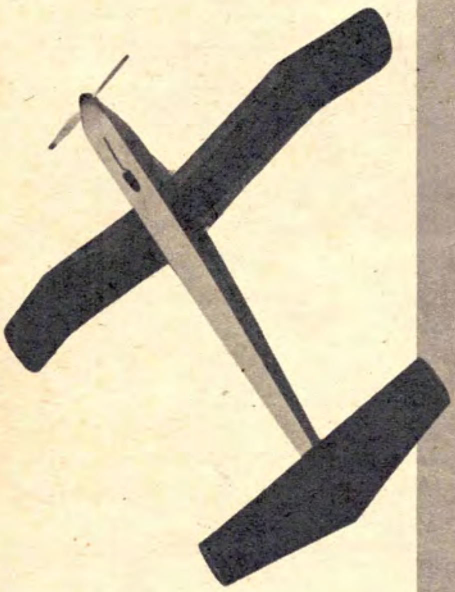
This should not be interpreted to mean that the model cannot be spun, but rather that we have introduced an additional factor besides dihedral to increase the range in which the model can be safely adjusted to fly. We should always be conscious of the fact that any model can be adjusted to spin.

It was not until we flew the model that we realized just how effective the arrangement proved to be.

At first we trimmed the ship for a glide, which incidentally proved very easy as it balanced with a slight tail load. The slight stalling tendency that was inherent all but disappeared as soon as we put a shallow turn in the glide. For the first flight we placed the prop on backwards, not because we doubted our own accuracy, but we were constantly reminded of that old saying: "An ounce of prevention is worth a pound of cure."

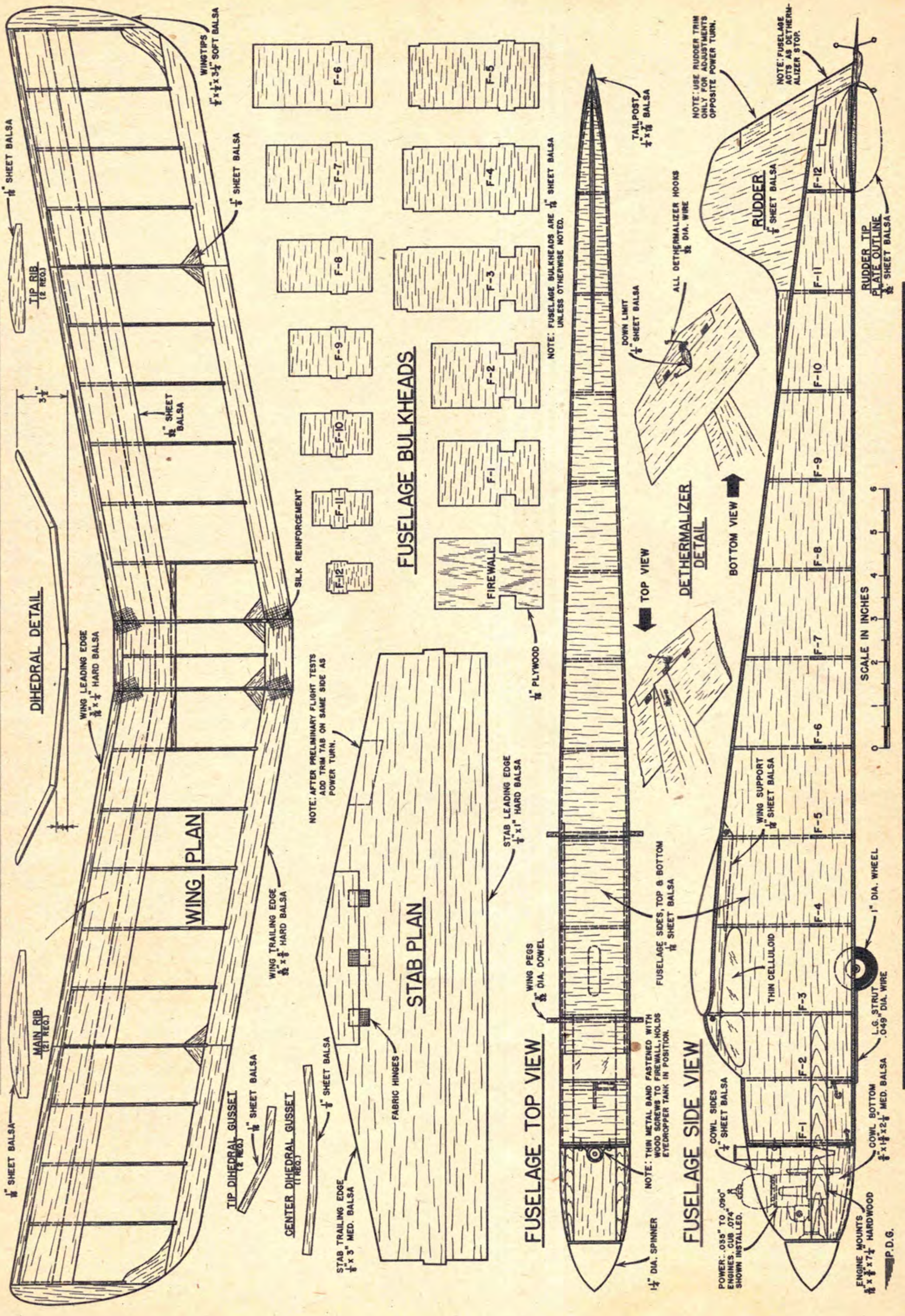
Well, that first eight-second flight proved to be really something! You'd never have guessed the prop was on backwards. It circled up in just one wide circle and when the engine cut it rolled rapidly into a right-turn glide, which proved to be equally as good as for the majority of contest designs utilizing an .074 Cub, though with much more wing area.

But the second flight with the prop on right and little more turn in the glide was the payoff. After watching it climb so spectacularly we knew that what we had striven for was a reality. Anyone watching us fly the model must have gotten the impression that we were die-hard speed control line (*Continued on page* 76)



Experimental, contest-type free flight proves there's good reason to sweep wing forward

By PAUL E. DEL GATTO


WING PLAN
WINGTIPS 1/4"x1/2"x3 1/4" SOFT BALSA
1/16" SHEET BALSA
1/8" SHEET BALSA
TIP RIB (2 REQ.)
3 1/4"
1/32" SHEET BALSA
DIHEDRAL DETAIL
WING LEADING EDGE 3/16"x1/4" HARD BALSA
SILK REINFORCEMENT
WING TRAILING EDGE 3/32"x5/8" HARD BALSA
MAIN RIB (21 REQ.)
1/16" SHEET BALSA
TIP DIHEDRAL GUSSET (2 REQ.)
1/8" SHEET BALSA
CENTER DIHEDRAL GUSSET (1 REQ.)
1/8" SHEET BALSA
FUSELAGE BULKHEADS
F-1
F-2
F-3
F-4
F-5
F-6
F-7
F-8
F-9
F-10
F-11
F-12
FIREWALL
1/16" PLYWOOD
NOTE: FUSELAGE BULKHEADS ARE 1/16" SHEET BALSA UNLESS OTHERWISE NOTED.
STAB PLAN
NOTE: AFTER PRELIMINARY FLIGHT TESTS ADD TRIM TAB ON SAME SIDE AS POWER TURN.
STAB LEADING EDGE 1/4"x1" HARD BALSA
FABRIC HINGES
STAB TRAILING EDGE 1/8"x3" MED. BALSA
FUSELAGE TOP VIEW
TAILPOST 1/4"x1/16" BALSA
WING PEGS 3/32" DIA. DOWEL
FUSELAGE SIDES, TOP & BOTTOM 1/16" SHEET BALSA
NOTE: THIN METAL BAND FASTENED WITH WOOD SCREWS TO FIREWALL, HOLDS EYEDROPPER TANK IN POSITION.
1 1/4" DIA. SPINNER
TOP VIEW
DETHERMALIZER DETAIL
BOTTOM VIEW
DOWN LIMIT 1/8" SHEET BALSA
ALL DETHERMALIZER HOOKS 1/32 DIA. WIRE
NOTE: USE RUDDER TRIM ONLY FOR ADJUSTMENTS OPPOSITE POWER TURN.
NOTE: FUSELAGE ACTS AS DETHERMALIZER STOP.
RUDDER 1/8" SHEET BALSA
RUDDER TIP PLATE OUTLINE 1/32" SHEET BALSA
FUSELAGE SIDE VIEW
WING SUPPORT 1/16" SHEET BALSA
THIN CELLULOID
1" DIA. WHEEL
L.G. STRUT .049" DIA. WIRE
COWL SIDES 1/4" SHEET BALSA
COWL BOTTOM 1/8"x1 5/8"x2 1/4" MED. BALSA
POWER: .035" TO .090" ENGINES. CUB .074" SHOWN INSTALLED.
ENGINE MOUNTS 1/4"x3/8"x7 1/2" HARDWOOD
SCALE IN INCHES
0
1
2
3
4
5
6
P.D.G.

Use Air Trails Full Size Plan No. 1252-A for fast-construction of Lightning

Lethal Lucy

By Leon Shulman

Lee's latest lovely scores a solid success in stunt circles

■ "Lethal" is right! At the average stunt contest where the top winners are neck to neck and with only a few points separating the top five contestants a ship of this size—especially when powered by a large engine — can pull the maneuvers tight, sharp and above all be impressive to the stunt judges!

When the winds blow (and don't they really kick your model around just when you are trying for level flight or smooth maneuvers!) this crate can really hold tight at the end of the lines and laugh at old man Windy Joe.

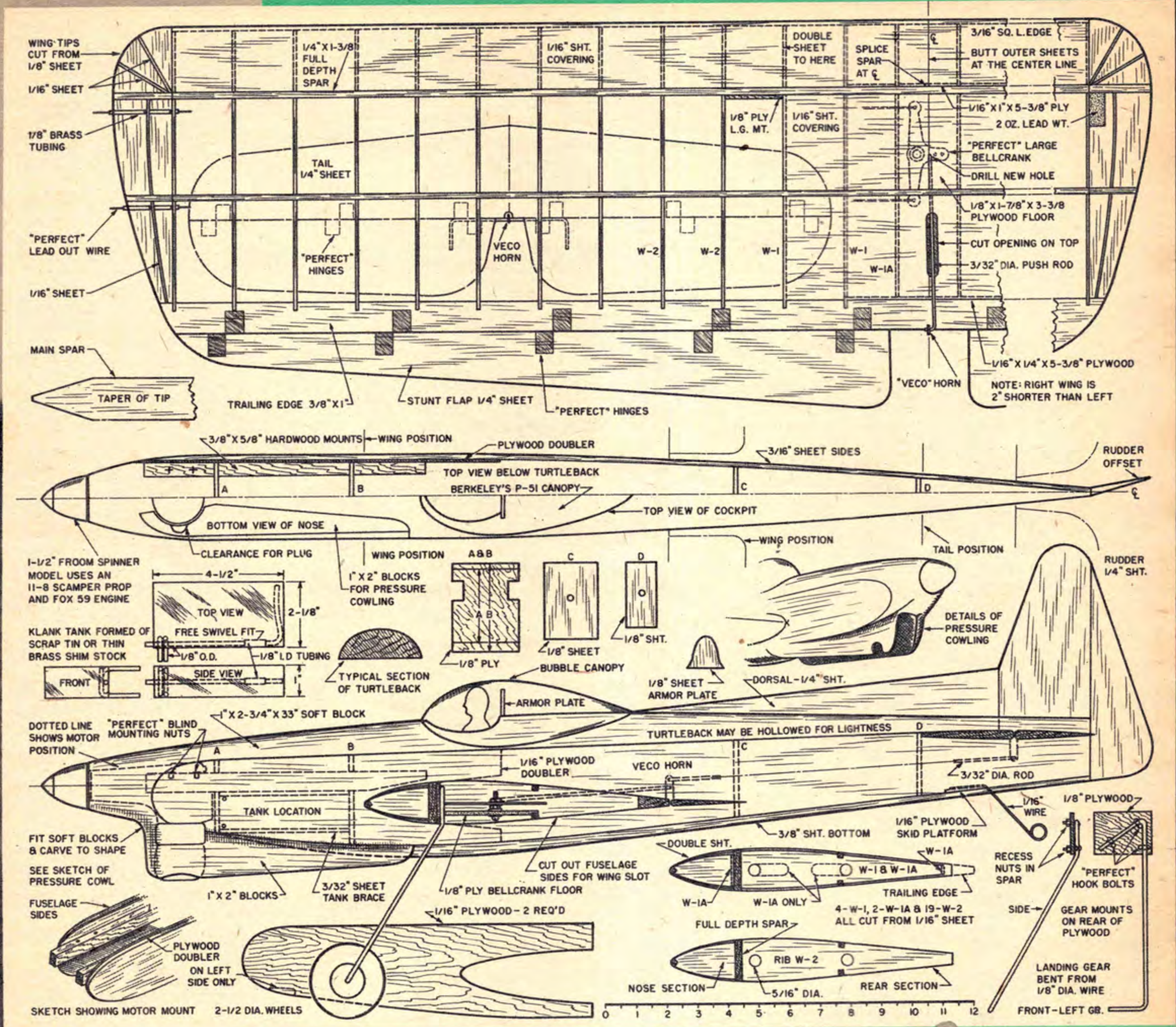
Lucy is a real *hot* stunt model, easy to handle but when you move the control handle she obeys without hesitation, and at such speed it forces you to think fast and right. With a Fox .59 this airplane is not recommended for the beginner—and if you weigh less than 100 pounds and have a weak arm don't fly this ship.

Your author, a six-footer who hits the 200-pound mark, has been pulled out of the center of the circle more than once during consecutive loops. Because of this centrifugal force at high speeds, original rudder was trimmed down and given less offset to pull outward with less force.

The model itself is a little unusual in some respects, aside from its extremely high power loading. It has a relatively long nose as stunt models go, and sports a landing gear which looks nice and really allows for smooth realistic take-offs and landings, very much like our modern fighters. The layout is typical of good stunt model design and features the flap and elevator linkage system for tight maneuvers without any high-speed stalling tendencies or buffeting.

With the inverted engine and sleek lines and appearance, it is a natural

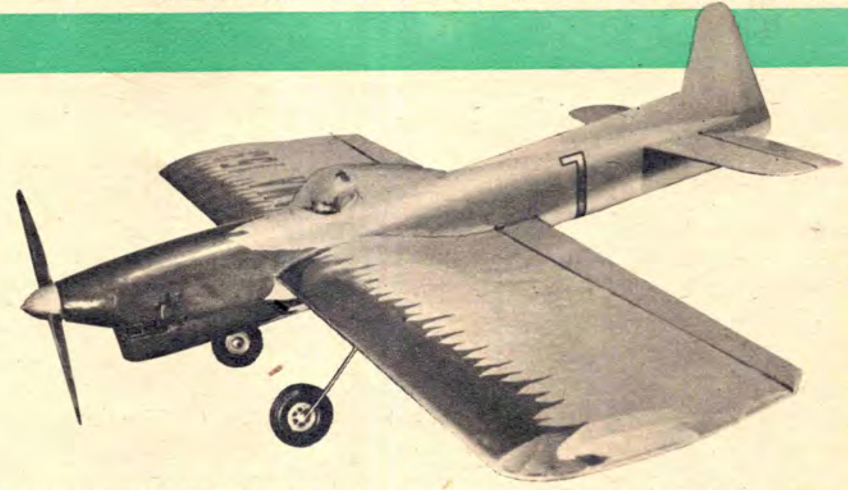
Full-size plans for building Lethal Lucy on AT's Plan #1252-A


WING TIPS CUT FROM 1/8" SHEET
1/16" SHEET
1/8" BRASS TUBING
"PERFECT" LEAD OUT WIRE
1/16" SHEET
MAIN SPAR
TAPER OF TIP
1/4" X 1-3/8" FULL DEPTH SPAR
TAIL 1/4" SHEET
"PERFECT" HINGES
1/16" SHT. COVERING
VECO HORN
TRAILING EDGE 3/8" X 1"
STUNT FLAP 1/4" SHEET
"PERFECT" HINGES
W-2
W-2
W-1
W-1
W-1A
DOUBLE SHEET TO HERE
1/8" PLY L.G. MT.
1/16" SHT. COVERING
SPLICE SPAR AT ℄
℄
3/16" SQ. L. EDGE
BUTT OUTER SHEETS AT THE CENTER LINE
1/16" X 1" X 5-3/8" PLY
2 OZ. LEAD WT.
"PERFECT" LARGE BELLCRANK
DRILL NEW HOLE
1/8" X 1-7/8" X 3-3/8 PLYWOOD FLOOR
CUT OPENING ON TOP
3/32" DIA. PUSH ROD
1/16" X 1/4" X 5-3/8" PLYWOOD
"VECO" HORN
NOTE: RIGHT WING IS 2" SHORTER THAN LEFT
3/8" X 5/8" HARDWOOD MOUNTS
WING POSITION
PLYWOOD DOUBLER
3/16" SHEET SIDES
RUDDER OFFSET
TOP VIEW BELOW TURTLEBACK
BERKELEY'S P-51 CANOPY
A
B
C
D
℄
TOP VIEW OF COCKPIT
BOTTOM VIEW OF NOSE
CLEARANCE FOR PLUG
WING POSITION
TAIL POSITION
1-1/2" FROOM SPINNER MODEL USES AN 11-8 SCAMPER PROP AND FOX 59 ENGINE
4-1/2"
TOP VIEW
2-1/8"
FREE SWIVEL FIT
KLANK TANK FORMED OF SCRAP TIN OR THIN BRASS SHIM STOCK
1/8" O.D.
1/8" I.D TUBING
SIDE VIEW
1"
FRONT
WING POSITION
1" X 2" BLOCKS FOR PRESSURE COWLING
TYPICAL SECTION OF TURTLEBACK
A&B
A
B
1/8" PLY
C
1/8" SHEET
D
1/8" SHT.
1/8" SHEET ARMOR PLATE
BUBBLE CANOPY
DETAILS OF PRESSURE COWLING
RUDDER 1/4" SHT.
DORSAL-1/4" SHT.
ARMOR PLATE
1" X 2-3/4" X 33" SOFT BLOCK
DOTTED LINE SHOWS MOTOR POSITION
"PERFECT" BLIND MOUNTING NUTS
A
B
C
D
TURTLEBACK MAY BE HOLLOWED FOR LIGHTNESS
1/16" PLYWOOD DOUBLER
VECO HORN
3/32" DIA. ROD
TANK LOCATION
1/16" WIRE
1/8" PLYWOOD
FIT SOFT BLOCKS & CARVE TO SHAPE
SEE SKETCH OF PRESSURE COWL
1" X 2" BLOCKS
3/32" SHEET TANK BRACE
1/8" PLY BELLCRANK FLOOR
CUT OUT FUSELAGE SIDES FOR WING SLOT
3/8" SHT. BOTTOM
1/16" PLYWOOD SKID PLATFORM
DOUBLE SHT.
W-1A
W-1 & W-1A
TRAILING EDGE
W-1A
W-1A ONLY
4-W-1, 2-W-1A & 19-W-2 ALL CUT FROM 1/16" SHEET
FULL DEPTH SPAR
RIB W-2
NOSE SECTION
5/16" DIA.
REAR SECTION
RECESS NUTS IN SPAR
"PERFECT" HOOK BOLTS
SIDE
GEAR MOUNTS ON REAR OF PLYWOOD
LANDING GEAR BENT FROM 1/8" DIA. WIRE
FRONT-LEFT GB.
FUSELAGE SIDES
PLYWOOD DOUBLER ON LEFT SIDE ONLY
1/16" PLYWOOD - 2 REQ'D
SKETCH SHOWING MOTOR MOUNT
2-1/2 DIA. WHEELS
0 1 2 3 4 5 6 7 8 9 10 11 12

for additional bonus points for appearance and realism, when applicable in contests.

Note: Practice flying is extremely important with *Lethal Lucy* because of its high speed. Before entering competition, you should become thoroughly familiar with its flight characteristics.

We caution you to use only good quality flying wires with secured ends and strong clips. For your own protection, pull-test *Lucy* each time the lines are laid out to fly, and walk the lines out straight before each flight. This should be common procedure with any good concientious controline flyer, but more so when flying this model.



LEON "LEE" SHULMAN, 31, noted for outstanding free flight designs like Zombie, Banshee, Zoomer, Wedgie . . . designed and made the Drone engine . . . started building in '20's after seeing the Graf Zeppelin . . . married, lives in Linden, N. J., has two daughters and son Donald, 6, who is quite a stunt flyer . . . started contest career with Brooklyn Skyscrapers . . . flew multi-engine planes for USAAF in WWII; shot down by own anti-aircraft batteries while towing target . . . manages Newark branch wholesale hobby company.

"TOPS" FOR EVERY MODELING JOB!

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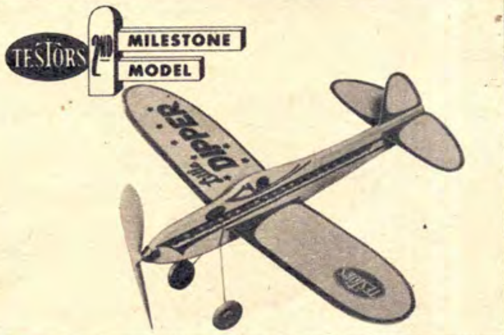
DOPE
OFFICIAL ARMY - NAVY AIRCRAFT
GLOSS BLACK
TESTOR CHEMICAL CO. ROCKFORD, ILL.
STA
A QUICK-DRYING HOT FUEL PROOF FINISH FOR MODEL AIRPLANES
THIN ONLY WITH STA THINNER
ORANGE
TESTOR CHEMICAL CO., ROCKFORD, ILL.
POLYSTYRENE CEMENT
For Plastics
PAINT
For Plastics
GRAY
MODEL AIRPLANE Cement
Strong!
FAST DRYING
FORMULA B
EXTRA FAST DRYING
FORMULA A

• TESTORS DOPE has no equal for fine hiding power, easy application, film toughness, and pure color brilliance . . . comes in a wide range of popular and authentic colors • TESTORS STA is your dependable hot fuel proof finish which is not in the least affected by any known hot fuel . . . now formulated for brushing or spraying without thinning • TESTORS POLYSTYRENE CEMENT actually *fuses* plastic parts together so that they are permanently joined in a real bond . . . is formulated with proper viscosity to permit easy, even application without excessive running or spreading • TESTORS PAINT FOR PLASTICS—in 10 popular colors—is easy to work with on any polystyrene or cellulose acetate plastic . . . gives good one-coat coverage, can be applied over a still-wet coat without smudging or blending, dries hard and slick. • TESTORS MODEL AIRPLANE CEMENTS have been developed to meet the varying requirements of different kinds of cementing jobs: Formula "A" is *extra fast drying* for quick, easy construction of light weight models and for on-the-spot repairs; Formula "B" is *fast drying* . . . the strongest for balsa or hardwood, for metal to metal, for metal to wood.

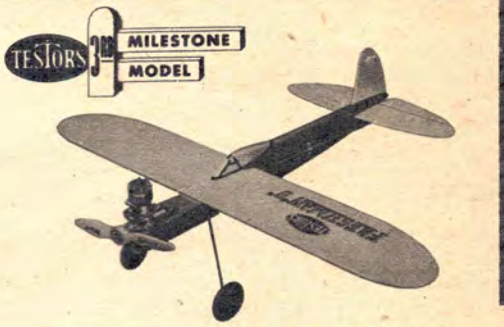
1st MILESTONE MODEL
Hand-Launched
Go-Hi
10c—Individually Packaged—25c

TESTORS 1ST MILESTONE MODEL
USAF
Go-Hi

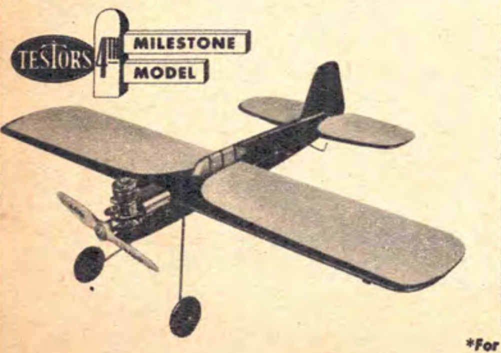
2nd MILESTONE MODEL
Rubber-Powered
LITTLE DIPPER and BIG DIPPER
50c—Individually Packaged—$1.00


TESTORS 2ND MILESTONE MODEL
Little DIPPER

3rd MILESTONE MODEL
Control-Line Trainer
FRESHMAN "9"—"19"—"29"*
$2.48 $2.98 $3.98


TESTORS 3RD MILESTONE MODEL
FRESHMAN

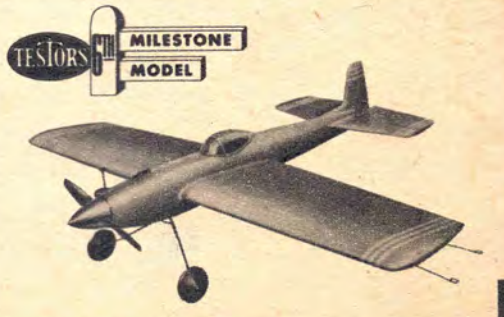
4th MILESTONE MODEL
Control-Line Stunt Trainer
SOPHOMORE "9"—"19"—"29"*
$2.48 $2.98 $3.98


TESTORS 4TH MILESTONE MODEL

5th MILESTONE MODEL
Control-Line Stunt
JUNIOR "9"—"19"—"29"*
$3.48 $3.98 $4.98

TESTORS 5TH MILESTONE MODEL

6th MILESTONE MODEL
Control-Line Super Stunt
SENIOR "9"—"19"—"29"*
$3.48 $3.98 $4.98


TESTORS 6TH MILESTONE MODEL

*For the McCoy "9", "19", and "29" engines, the Testor-McCOY "9", "19", and "29" propellers, and Testors "39" Fuel.

TESTORS

SPITFIRE • SABRE JET • MIG-15

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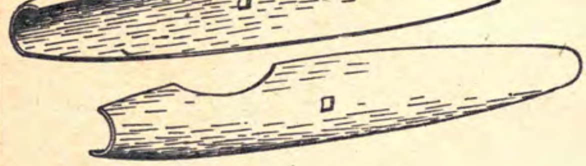
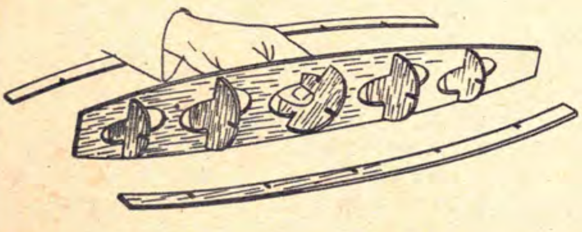
SCALE MODEL KITS

ALL PARTS SHAPED AND
READY FOR ASSEMBLING



MOLDED BALSA PARTS . . . fuselage half-sections and wing half-sections are actually *molded* into shape! This production process is an important Testor development that simplifies and speeds construction . . . adds realism to appearance . . . makes possible a more perfect finish on the model.

KEY-LOK ASSEMBLY . . . note how formers fit securely into place in the keel section with the simple slot-slide action of a key turning in a lock. This exclusive construction technique (patents pending) insures positive position and correct alignment of parts . . . gives the model greater strength . . . saves building time and work.



LOOK AHEAD TO CHRISTMAS! YOU AND YOUR FRIENDS WILL ENJOY TESTORS SCALE MODEL KITS

Think how many of your friends . . . even those who are not yet modelers . . . would find real fun in building Testors Scale models! These history-makers from the headlines of World War II and Korea are outstanding in detail and design . . . very realistic in appearance . . . easy to build because all parts are shaped and ready for assembly. Look at them . . . the Spitfire MK-19, F-86 Sabre Jet, the MIG-15. Dandy gifts every one . . . and sure to make a big hit! See your hobby dealer for complete details . . .

TESTOR CHEMICAL COMPANY • ROCKFORD, ILLINOIS

Plymouth's 6th Internationals

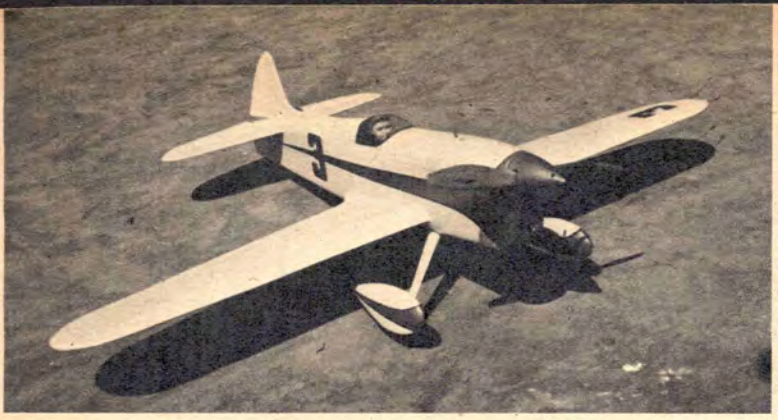
World's biggest invitational meet brings 500 top-notch American and Canadian modelers to Detroit for sixth annual competition; flyers set six new international F. A. I. records—general reaction: terrific!

R. C. Somerville, gen. sales mgr., Plymouth Motor Corp. Pete De Paolo, 1925 winner of Indianapolis 500 race, and J. P. Mansfield, Plymouth's Pres., inspect George Mueller's delta wing jet model used in F.A.I. trials.

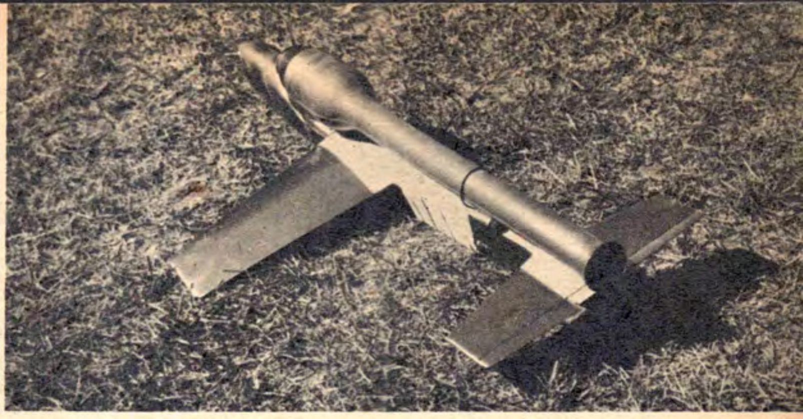
■ The world's largest invitational model airplane tournament, the Sixth International Model Plane Contest sponsored by the Plymouth Motor Corp., drew 500 U. S. and Canadian contestants to Detroit to compete in the best organized meet of all time.

More than 100 officials were on hand to direct 31 different free flight and control line events in the various age categories. Plymouth classifies flyers as Freshmen between 8 and 12, as Juniors between 12 and 16 and as Seniors from 16 to 31.

When the four-day Internationals concluded with a big victory banquet at the Bob-Lo amusement park in Canada, top-place winners emerged as Freshman and High-Point Meet Champ eleven-year-old Chris A. Hanson of Midland, Mich.; Junior Champ, Henry D. LaVon, 15, Tacoma, Wash.; and Senior Champ, Eugene B. Stiles, 20, Alameda, Calif., now with the USAF at Sheppard Field, Texas. The victory dinner brought together leaders in the automobile industry, high-ranking officers of the Air Force and Navy, and the 500 youthful contestants, their families and their mechanics. A total of 103 gleaming trophies and $4,725 in U.S. Savings bonds were presented to the boys and girls who sat in the winner's circle. The Air Trails perpetual trophy for outstanding performance in stunt competition went to Lloyd W. Curtis, 15, of St. James, Minn.



AT's nomination for cleanest team racer was this cream and gold entry #3 by Dick Moga, Minneapolis. Original design, Fox .29R.



When Frank Gross' (Compton, Cal.) outboard wing let go he flew the "reduced" model to 3rd at Nats. Didn't place at Detroit.

Free flight and some control line events were run off at the Air Force's Selfridge Field at Mt. Clements, Mich. Then after two days, the remainder of the C/L flying moved on to the Belle Isle athletic field in Detroit's mid-river recreation park.

As usual the Internationals proved to be a good show as well as a good contest. Although free flighters were hampered by rain the first day and high winds the second, creditable times were racked up despite difficulties in retrieving. It was necessary to keep one runway open at Selfridge for full-scale jet operations, thus restricting the F/F'ers in chasing their craft.

At Belle Isle international record attempts were made in speed flying, both rise-off-ground and rise-off-water. For this latter peculiar classification Plymouth prepared a curved hydro tank from which conventional and flying wing speed jobs took off, dropping their float dollies along the way. Richard R. Wilson, 17, racked up four F.A.I. world records; Stiles, the senior high-point champ, established one and a sixth international mark was set by Mark E. Brown, 20, USAF, Chanute AFB, Ill.

Smashing good time was had by many combat flyers. No exception are R. S. Nowicki, Detroit (lt.) and C. R. Brown, Winston-Salem, N. C.

First in style, beauty and main team race event was Sy G. Vos Gerau of Miami, Fla., Tropic Aeros. Upright Torp .29; 9/7 Tornado.

Radio controlled 7½ lb. model blimp powered by two OK .09's does F/F act at Belle Isle athletic field, site of control line competition.

J. P. Mansfield, President of Plymouth Motor Corp., presents International Jet Trophy to Herbert L. Davis, who also won this trophy last year.

L. L. Colbert, President of Chrysler Corp., holds 8-year-old Billy McCracken, who won Youngest Contestant Trophy by one day from nearest rival.

Freshman High Point Trophy goes to Chris A. Hanson from L. J. Ouelette of Dodge Brothers Corp. Chris was high point man of the entire meet.

Sy G. Vos Gerau receives Beauty Team Racing Trophy from Capt. E. R. Sanders, commanding officer of Grosse Ile Naval Air Station.

Plymouth International

OFFICIAL WINNERS

6th Annual Model Plane Contest

Detroit, Michigan • August, 1952

The "Olympics" of model aviation—the 6th Annual Plymouth International—highlighted another great year for the sport. Hundreds of state and local contests, sponsored by Plymouth dealers, were climaxed by the big Detroit meet, August 20-25.

Winners among the 500 finalists at Detroit, with more than 1500 entries, are shown here. The Plymouth Motor Corporation extends sincere thanks to those who took part in this famous youth activity—and hopes to see you at the Detroit finals next year.

PERPETUAL TROPHY WINNERS

High Point Winners	**Points**
Chris A. Hanson (Freshman), Midland, Mich.	36
Henry D. La Von (Junior), Tacoma, Wash.	31
Eugene B. Stiles (Senior), Sheppard A.F.B., Texas	30
International High Point Trophy	
John Korta, Hamilton, Ontario, Canada	11
High Point Girl	
Beatrice J. Ivey, Highland Park, Mich.	7
Patsy A. Scott, Walnut Creek, Calif.	7
Flying Scale—High Point Score—Stinson Trophy	
Roger J. Harney, Berwyn, Ill.	289
Stunt—High Point Score—Air Trails Trophy	
Lloyd W. Curtis, St. James, Minn.	307
Top Speed—Jet—Plymouth International Jet Trophy	**Speed**
Herbert L. Davis, Birmingham, Ala.	145.93 M.P.H.

Other Top Winners

Team Racing Trophy
Sy G. Vos Gerau, Miami, Fla.

Style and Beauty (Team Racing) Trophy
Sy G. Vos Gerau, Miami, Fla.

Sportsmanship Trophy
Oscar Weingart, Brooklyn, N. Y.

Youngest Contestant Trophy
Billy McCracken, Round Lake, Ill.

UNLIMITED RUBBER

	Place	**Flight Time**
Freshman	1. Billy McCracken, Round Lake, Ill.	397.9 Sec.
	2. Chris A. Hanson, Midland, Mich.	349.0 "
	3. Clifford C. Gray, St. Paul, Minn.	341.6 "
Junior	1. John R. Sawyer, Los Angeles, Calif.	630.8 Sec.
	2. Richard S. Culver, Oak Ridge, Tenn.	613.8 "
	3. William P. Ward, Akron, Ohio	510.4 "
Senior	1. Herman R. Andresen, Chicago, Ill.	505.4 Sec.
	2. Ian D. Campbell, South Bend, Ind.	504.9 "
	3. Haig S. Parechanian, Cambridge, Mass.	492.1 "

HAND-LAUNCHED GLIDER

	Place	**Flight Time**
Freshman	1. Douglas Hinkel, Wauwatosa, Wisc.	92.1 Sec.
	2. Michael D. Holton, Jacksonville, Fla.	89.6 "
	3. Fred W. Sage, III, Independence, Mo.	89.4 "
Junior	1. Robert P. Nelson, Binghamton, N. Y.	246.2 Sec.
	2. Joseph F. Ziomek, Allen Park, Mich.	205.8 "
	3. Richard S. Culver, Oak Ridge, Tenn.	199.4 "
Senior	1. Charles A. Petranek, Madison, Wisc.	213.0 Sec.
	2. Glen M. Ballou, Southington, Conn.	207.6 "
	3. John Korta, Hamilton, Ontario. Can.	195.8 "

Tied for Girls' High Point Trophy were Patsy A. Scott, center, and Beatrice J. Ivey. On left is J. B. Wagstaff, Vice President & General Sales Manager, De Soto Motor Corp.

K. T. Keller, Chairman of the Board, Chrysler Corp., awards International High Point Trophy to John Korta of Hamilton, Ontario, Canada.

Sy G. Vos Gerau, a double winner this year, receives Team Racing High Point Trophy from Capt. Arthur S. McConnell of U. S. Air Force.

Eugene B. Stiles, U. S. Air Force, won Senior High Point Trophy. Presenting it is J. A. O'Malley, General Sales Manager, Chrysler Sales Division.

FREE FLIGHT GAS—CLASS ½A

	Place	Flight Time
Freshman	1. Fred W. Sage, III, Independence, Mo.	479.0 Sec.
	2. Dennis W. Alford, San Diego, Calif.	393.0 "
	3. Billy McCracken, Round Lake, Ill.	373.2 "
Junior	1. Ronald M. Brich, Cleveland, Ohio	585.0 Sec.
	2. Don D. Pelton, Cincinnati, Ohio	519.2 "
	3. Daryl J. Monson, Cambridge, Minn.	498.2 "
Senior	1. George A. Albright, Jefferson City, Mo.	824.8 Sec.
	2. Bernard A. Boehm, South Bend, Ind.	662.1 "
	3. Don H. Helfers, Arlington Heights, Ill.	657.5 "

FREE FLIGHT GAS—CLASS A

	Place	Flight Time
Junior	1. Walter W. Arensmeyer, Choteau, Mont.	495.5 Sec.
	2. Richard C. Bradford, Salt Lake City, Utah	463.0 "
	3. Ronald M. Brich, Cleveland, Ohio	454.0 "
Senior	1. Clinton H. Merrill, Oildale, Calif.	813.8 Sec.
	2. Duane A. Anderson, Minneapolis, Minn.	804.5 "
	3. Thomas H. Alden, Swarthmore, Pa.	777.4 "

FREE FLIGHT GAS—CLASS BC

	Place	Flight Time
Junior	1. Victor L. Peres, Erie, Pa.	1076.1 Sec.
	2. Robert C. Baxter, San Diego, Calif.	917.0 "
	3. David W. Feuz, Portland, Ore.	851.0 "
Senior	1. Bernard J. Stock, Omaha, Neb.	989.5 Sec.
	2. Richard R. LeVon, Chicago, Ill.	987.6 "
	3. Anthony D'Alessandro, Philadelphia, Pa.	969.3 "

CONTROL LINE FLYING SCALE—CLASS ABCD

	Place	Points
Junior	1. Henry D. La Von, Tacoma, Wash.	225
	2. C. Hill Hutchins, Jr., Spartanburg, S. C.	178
	3. Jim I. Reeves, Chicago, Ill.	123
Senior	1. Roger J. Harney, Berwyn, Ill.	289
	2. Kenneth A. Schneider, Belwood, Ill.	167
	3. Robert J. Snyder, Rochester, N. Y.	139

CONTROL LINE STUNT—CLASS ABCD

	Place	Points
Freshman	1. Fred W. Sage, III, Independence, Mo.	285
	2. Dennis W. Alford, San Diego, Calif.	253
	3. Chris A. Hanson, Midland, Mich.	242
Junior	1. Lloyd W. Curtis, St. James, Minn.	307
	2. Bill Rood, Port Chicago, Calif.	304
	C. Hill Hutchins, Jr., Spartanburg, S. C.	304
	3. Arthur P. Pawloski, Detroit, Mich.	267
Senior	1. James G. Ebejer, Detroit, Mich.	306
	2. Donald E. Ferguson, Jr., Newtonville, Mass.	297
	3. Gerald F. Wagner, West Cheshire, Conn.	286

CONTROL LINE TEAM RACING—CLASS B

Main Event Race

1. Sy G. Vos Gerau, Miami, Fla.
2. William Davies, Maplewood, N. J.

Consolation Race

1. Donald E. Newell, Miami, Fla.

Style and Beauty

1. Sy G. Vos Gerau, Miami, Fla.

For fourth straight year, Henry D. La Von won an impressive award. Here he receives Junior High Point Trophy from C. E. Bleicher, President, De Soto Motor Corp.

Air Trails Stunt Trophy goes to Lloyd W. Curtis. On right is Al Lewis, Editor, Air Trails Magazine, who has made this award at each International since beginning.

Roger J. Harney won Stinson Flying Scale Trophy. Making presentation is C. B. Thomas, President of Export Division, Chrysler Corp.

Oscar Weingart won Plymouth Dealer Sportsmanship Trophy. From left are James Hosford, Hosford Motors, Cincinnati; A. B. Dowd, Plymouth's Merchandising Manager.

CONTROL LINE SPEED—CLASS A

	Place	Speed
Freshman	1. Joseph V. Scuro, Pittsburgh, Pa.	103.65 M.P.H.
	2. Richard K. Held, Detroit, Mich.	101.08 "
	3. Fred J. Barth, Chicago, Ill.	94.20 "
Junior	1. Alfred M. Davis, Birmingham, Ala.	114.75 M.P.H.
	2. Thomas Davis, Atlanta, Ga.	114.60 "
	3. Lowell M. Burvant, New Orleans, La.	106.97 "
Senior	1. Eugene B. Stiles, Sheppard A.F.B., Texas	122.57 M.P.H.
	2. Mark E. Brown, Chanute A.F.B., Ill.	122.07 "
	3. Richard R. Wilson, Lockport, N. Y.	120.92 "

CONTROL LINE SPEED—CLASS B

	Place	Speed
Junior	1. Alfred M. Davis, Birmingham, Ala.	123.41 M.P.H.
	2. Dale D. Early, Roanoke, Va.	122.23 "
	3. Thomas Davis, Atlanta, Ga.	120.51 "
Senior	1. Thomas K. Mattingly, Hialeah, Fla.	126.53 M.P.H.
	2. Herbert L. Davis, Birmingham, Ala.	125.65 "
	3. Warren J. Tomme, Little Rock, Ark.	124.95 "

CONTROL LINE SPEED—CLASS CD

	Place	Speed
Junior	1. Thomas Davis, Atlanta, Ga.	136.10 M.P.H.
	2. Arthur R. Malinski, Chicago, Ill.	134.07 "
	3. George Basil Davis, Stamford, Conn.	133.08 "
Senior	1. Richard A. Modler, Dayton, Ohio	146.40 M.P.H.
	2. Herbert L. Davis, Birmingham, Ala.	144.64 "
	3. James E. Funk, Vinton, Va.	142.12 "

CONTROL LINE SPEED—JET

	Place	Speed
Junior	1. Russell Cornell, Jr., Spokane, Wash.	138.41 M.P.H.
	2. Valgene W. Hayworth, Sedalia, Mo.	138.09 "
	3. Roger K. Welden, Rockford, Ill.	136.21 "
Senior	1. Herbert L. Davis, Birmingham, Ala.	145.93 M.P.H.
	2. Calvin F. Wilson, Jr., Charleston, W. Va.	143.03 "
	3. Eugene B. Stiles, Sheppard A.F.B., Texas	142.69 "

NAVY CARRIER DECK EVENT—CLASS ABCD

	Place	Points
Junior-Senior	1. Valgene W. Hayworth, Sedalia, Mo.	285
	2. John E. Barr, Westchester, Ill.	255
	3. Henry D. La Von, Tacoma, Wash.	241

COMBAT—CLASS ABC

	Place	Points
Junior	1. Gerald D. Bryant, St. Louis, Mo.	573
	2. Gerald J. Anderer, Philadelphia, Pa.	536
	3. Jim Arthur Young, Griffith, Ind.	493
Senior	1. Frank E. Gross, Compton, Calif.	535
	2. Marvin O. Wright, Fort Worth, Texas	485
	3. Robert B. Anderson, Mitchell, Ontario, Can.	468

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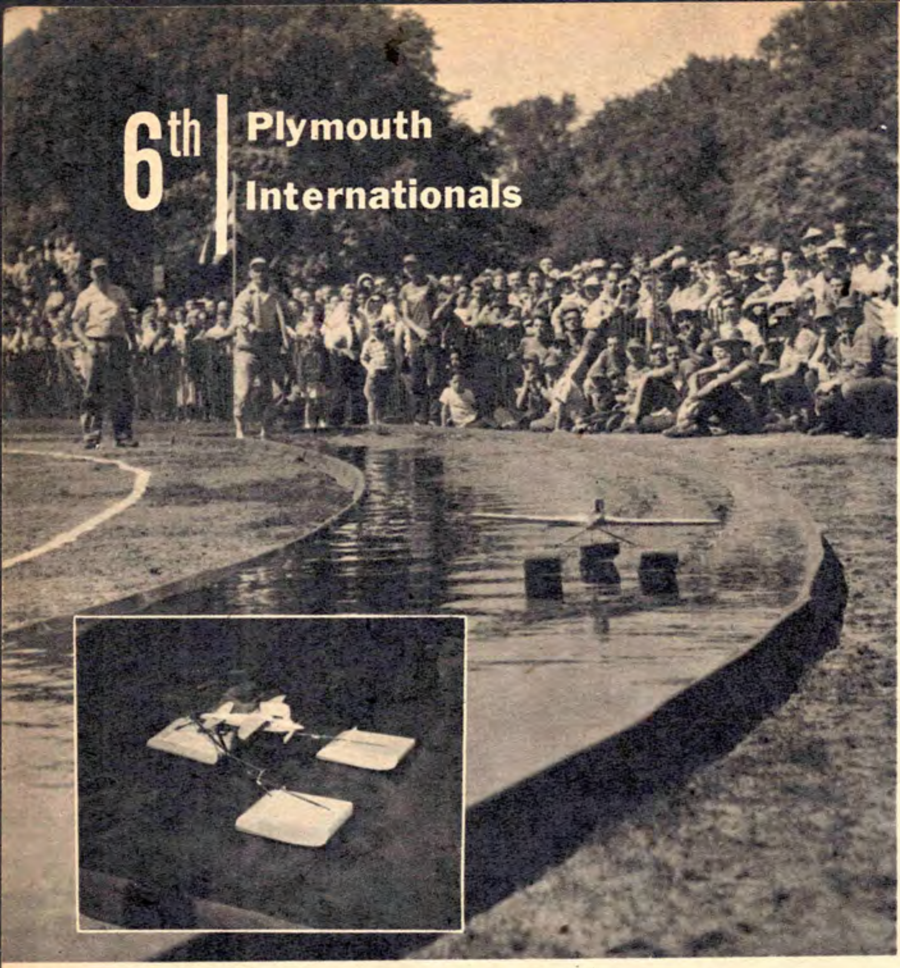
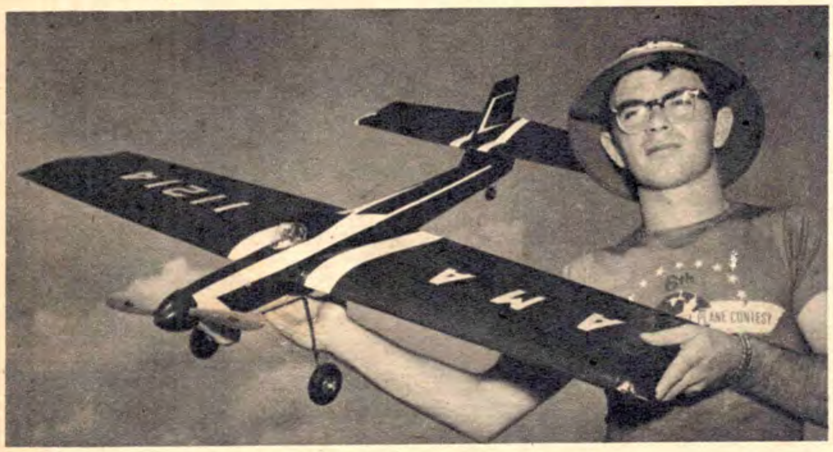
6th Plymouth Internationals



Texan contingent gets official welcome from pretty Maureen Bailey. From left: Henry J. Fiegel, Texas City, James E. Geppelt, Corpus Christi, and Kenneth Tyson, Houston. Cowpoke hats, dungarees were trademark of Texans.

Flying wing, R.O.W. C/L Fox .29 speed model flown by Richard R. Wilson, 17, Lockport, N. Y. to new international Class II record (left). Floats drop off. Inset: Cl. I "conventional" McCoy .15 job. Tank held 2500 gals.

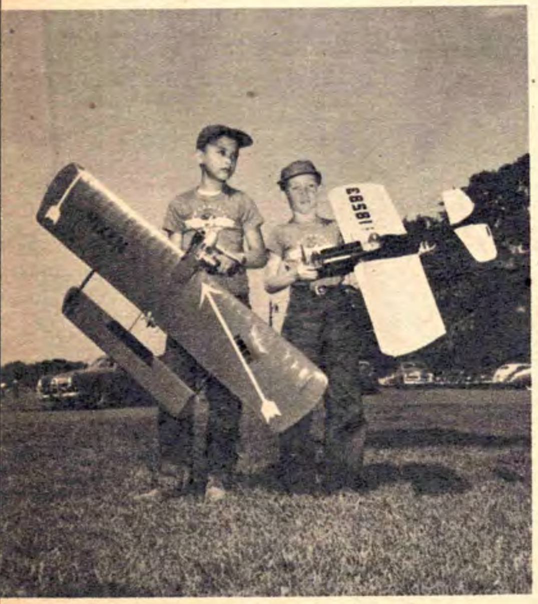


Typical of neat stunters was 51" span, Fox .59 powered 3-lb. model by Roland Chabot, Sanford, Me. Stab set high on rudder. Lloyd Curtiss, St. James, Minn., won Air Trails Perpetual Stunt Trophy with original, Fox .35, 460 sq. in. job.

Unusual stunt models (lower left) flown by Mike Holten, 10, and Jerry Stone, 9, both from Jacksonville, Fla. Mike's Vixen had Hornet .60, long stab on short booms. Jerry's job was powered with Fox .29, had very realistic appearance.

Senior high point winner Eugene B. Stiles, 20, Sheppard AFB, took A speed with 122.57 mph, also set new F.A.I. speed mark during record trials at meet. Janyce Wood, Pittsburgh, Pa., placed high in girls' scoring.

Johnny Brodbeck of K&B was there to help out with engine repairs. Keith Storey (behind JB) ran off team racing. Joe Dallaire of Detroit (sunglasses) kept supply truck on hand. All lines were by Mattie Sullivan of Philadelphia.



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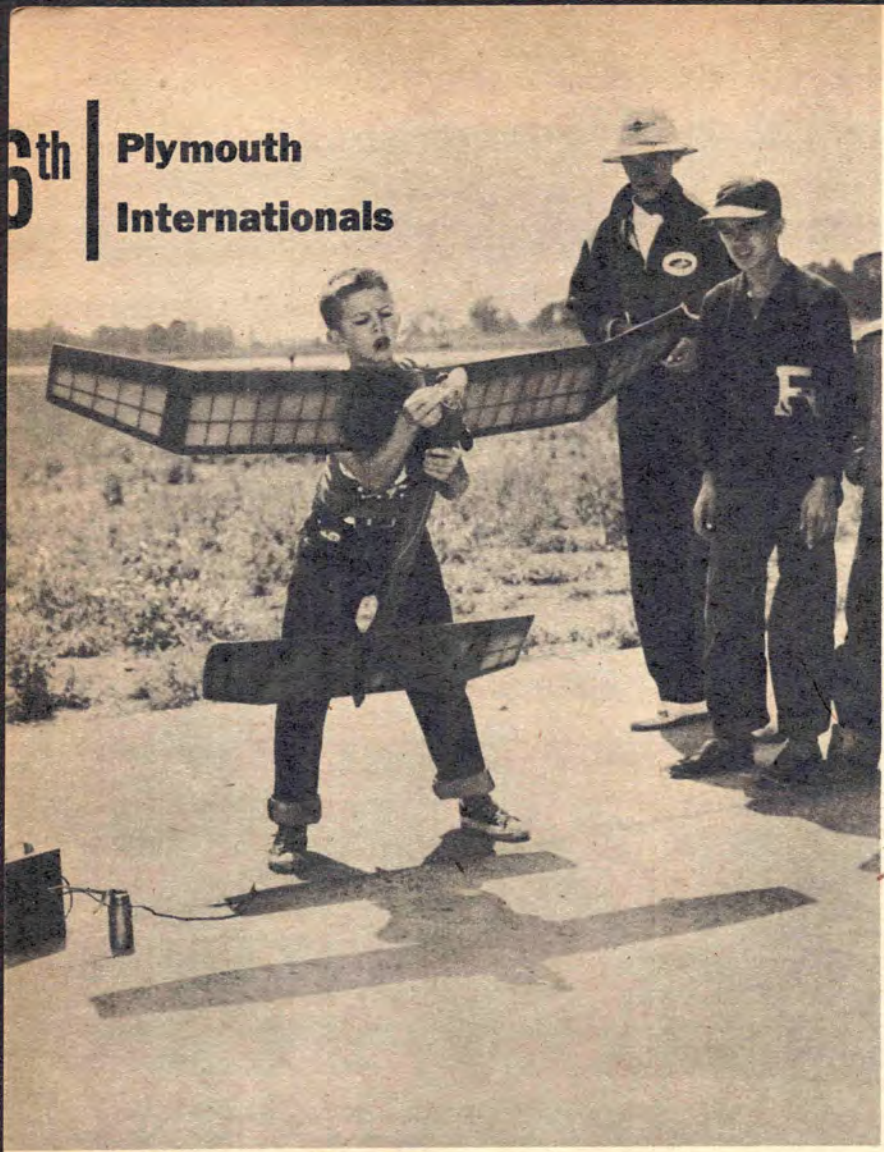
With Atwood "Wasp"	$7.85

6th Plymouth Internationals



Neat carrier model was Martin Mauler by Graham Ireland, Syracuse, N. Y., who put in 300 hours. Wings fold. Event won by Valgene Hayworth, Sedalia, Mo., 285 pts., with AD-2 model from "AT"; Atwood .60, Top-Flite 12/8 prop.

Line-up of team racers exceeded number at Nat'l meet, although operation-wise ships did not perform as smoothly. Sy G. Vos Gerau, Miami, Fla., took event and also top style and beauty. Don Newell, also Miami, won Consoliation.

Grim determination (above) expressed by Robert C. Baxter, 14, San Diego, Cal., as he readies Cl. BC free flight. Bob took 2nd in Jr., 917 sec. Vic Peres, Erie, Pa., won, 1076.

Dyna-Jet stunt model had all agog! Chuck Parsons, Redfield, S. D. (rt.), flew good portion of pattern with special craft which had Super Zilch wing and half-pint stunt fuel tank

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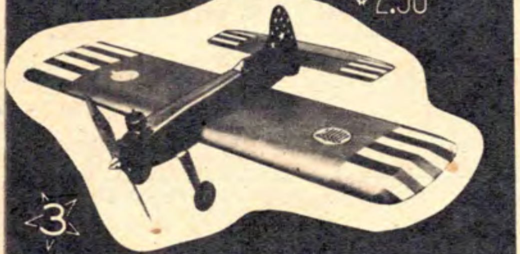

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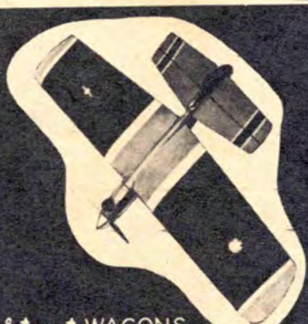

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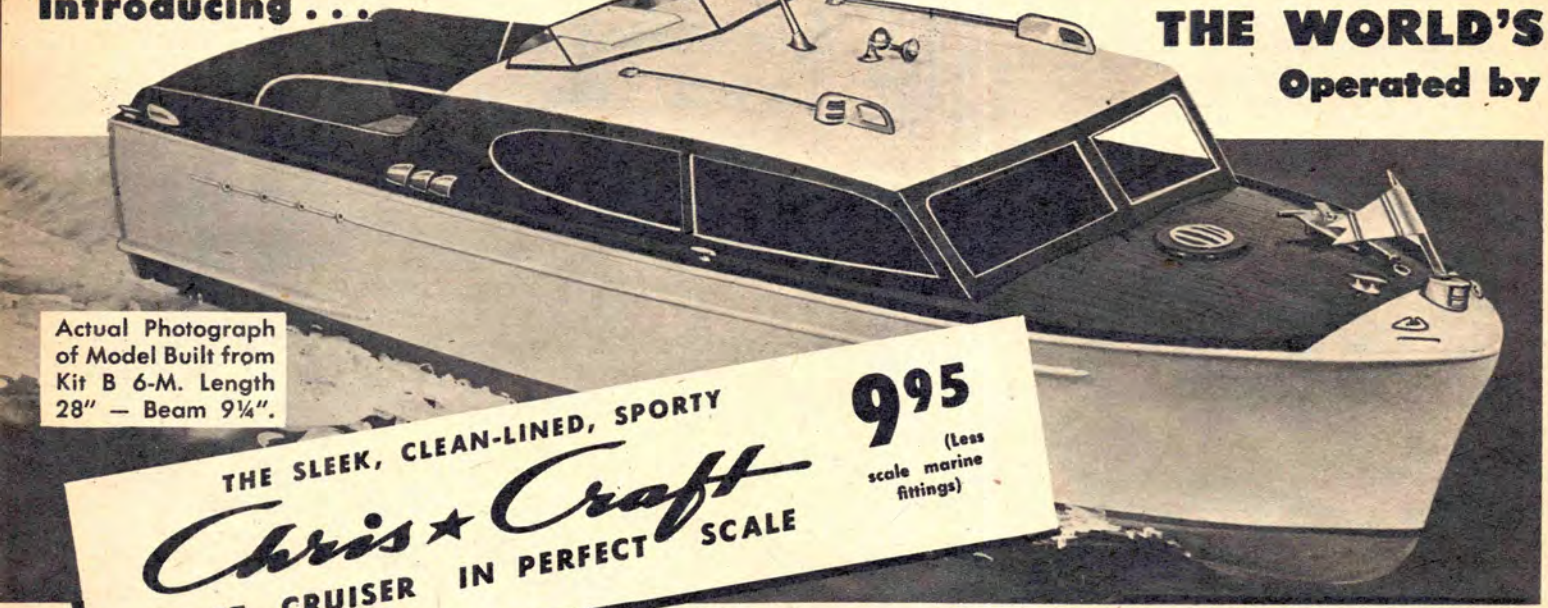

Actual Photograph of Model Built from Kit B 6-M. Length 28" — Beam 9¼".

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C. A. P. Cadet

(*Continued from page 20*)

usually between $100 and $150 to solo. After scholarship funds get a student that far, he may then fly alone to gain skill through the aid of club plans which may offer time at reduced rates. After attaining the private license and flying enough hours, CAP members may fly CAP planes at as low as $3 per hour, or may have gas and oil expenses paid for missions such as search.

To get more young people on this road, CAP units started years ago on local initiative to raise money. In 1945, units at Reading, Pa., alone had no less than $10,000 from proceeds of dances and fund drives. Scores of Cadets were soloed by a group rate at the local field.

Now the aggressive Michigan Wing of CAP, after soloing dozens recently, is on the way to a bigger program. If the Air Force wants to know how to cure any indifference it may encounter toward flying, just let its policy-making people talk to some of those enthusiastic CAP Cadets who have had the thrill of flying alone.

It remains to expand this program nationally, so that hundreds and even thousands of solo scholarships are offered under a uniform plan.

You may be among the winners. Look for important announcements in an early issue. And cast your vote for the Spaatz plan of scholarships as prizes for scale model building.

Home study of aviation, plus airplane rides when you can get them, can speed flight lessons and thus lead to solo in least time, at minimum cost.

Many students take their first flights not knowing why an airplane flies or how the controls work. Thus they lose expensive dual time learning what they could have studied on the ground.

On the art of safe flying generally, including traffic rules of the air which you must know just as those for the highway if you drive, the Civil Aeronautics Administration has a new question-and-answer booklet. If you learn it, you can pass the Private Pilot written exam.

The booklet not only contains 250 true-false statements. Of these, 150 are on general-knowledge points and 50 apply to operation of light airplanes. A new feature is the addition of 25 questions on gliders and 25 on helicopters. For both, special exams are now required. Previously there was one exam for all.

For either airplane, glider, or 'copter licenses, 50 questions will be selected from the book. You may order it for only 15¢ from Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Send carefully wrapped coins direct to that address. Ask for "Questions and Answers for Private Pilots".

An emergency mission was performed with great credit by Cadets of the Michigan Wing who were on field duty at the annual

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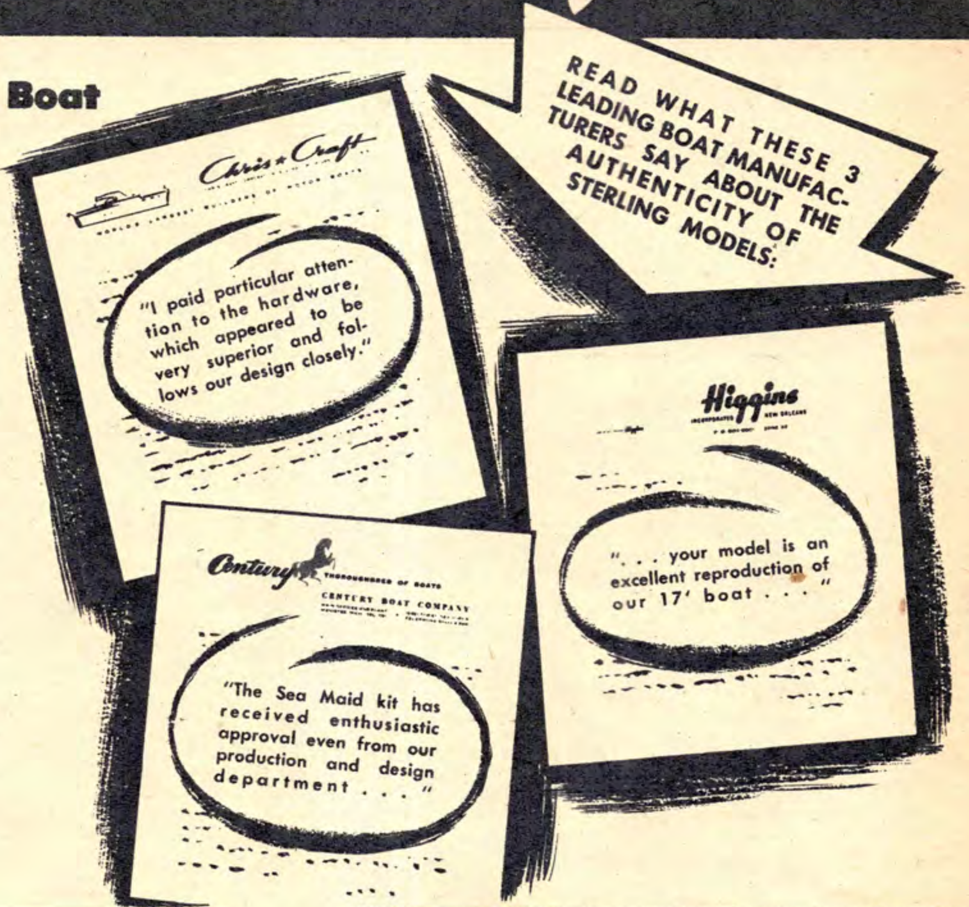

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F-51 MUSTANG. Kit S-2. Span 38". Class A, B and C. 2.95

RING MASTER. Kit S-1. Span 42". Class B and C. 2.95

air show in Detroit. Boys and girls, specially selected from units in several cities and well trained, had much of the responsibility of ushering, guarding airplanes, driving autos, and operating radio communications.

When a jet plane, making a pass over the field, lost a wing and hurtled to flaming wreckage, CAP Cadets were immediately with the MPs to keep back the crowds. Where the wing struck, they pulled autos from the flames.

On the edge of the field, the fuselage had crashed into a National Guard warehouse where .50 caliber ammunition began to explode like popping corn. Cadets went in to pull civilian aircraft from the spreading flames.

Since the plane had severed telephone lines, the CAP radio net was the only means of communication.

CAP is the one organization in which young people not only can have fun and train, but they can work side by side with adult flyers. The many civilian emergencies CAP meets should make it clear how important it will be in case of bigger trouble.

The radio work of CAP, for which the new two-year cadet course has been completed, is given new help through the assignment of eight Philco technicians, one to each of the newly established CAP regional offices.

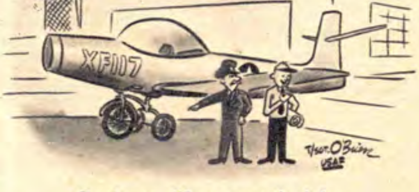
Under an Air Force contract, let after competitive bidding, these men will assist in putting the communications training program into full swing. Cadets who study these courses can fly and take aviation courses also.

Here is an opportunity to start in an important career field.

CAP pilots are increasingly in demand for flights over the ground observation posts of the Air Defense system to give practice to the watchers and radar operators. Since the planes fly in pre-determined courses, the filter stations can see whether their system is reporting right.

Another growing mission is the SARCAP—Search & Rescue. The Air Force pays for fuel and oil not only for actual missions but for frequent practice missions.

A new idea, which well may be copied in other states, was the flying of 150 employers to a Guard encampment in Wisconsin—to show use of leaves of absence.



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Air Trails Blue Ribbon Model. An authentic replica of the famous P-51 escort fighter. Prefabbed kit. For .020 to .074 Engines.

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For team racing or sport flying. Styled after prominent full scale racers—with "cheek" type cowls. For .039 to .099 Engines.

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Man . . . what action! Here's a quality powered race car at a tiny price. Operates on any smooth surface. For .020 to .074 engines.

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Here's real value . . . plus! A control-line plane that suits your flying tastes as well as your pocketbook. Carved balsa fuselage. "½A" engines.

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Dope Can

Nice action shot of control line stunt model being hand launched during a practice round for All Malayan National Competition at Kuala Lumpur.

Scale Model Fans Get Rough Deal

■ Touring the contest circuit this past season was a real eye-opening experience. Listening to flyers discuss their problems took a lot of time, but it was well worth it. We're absolutely convinced that the people who have more trouble than anybody are the scale model builders.

As a matter of fact, things are so bad all over for the scale model flyer that we think somebody ought to set aside a seven-day period to be called "Be Kind To Scale Model Builders Week (after all, they're human, too!)." Never in the history of model aviation have so many labored so long to receive such little credit and so few prizes as the scale model men.

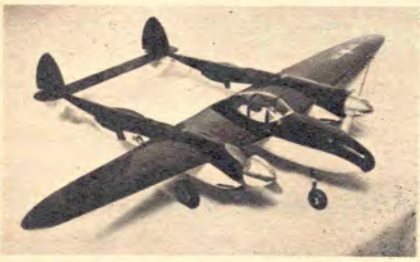
Up and away goes a 55-in. pylon free flight by E. Tummler, Bremen, Germany. Powerplant is an Elfin 2.46 cc. Photo by H. Kurth of Bremen MAC.

Why don't we see more flying scale models at meets and exhibitions? Well, we think we know the answer. The scale fan has been pushed around for so long that he's become completely disgusted and now keeps his little model home on the shelf.

One thing that has brought this condition about is the requirement in many meets that the entrant attempt a stunt pattern if he wants to end up with any appreciable number of points. So what happens to the multi-engine man? He cranks up his two, three or four motors (six in the case of the several B-36's we've seen) for a straight and level qualifying flight, then stands by while a model of a stunt biplane proceeds to whip through the pattern for a very high number of stunt points.

The amazing thing about the controversy of should-or-should-not-a-flying-scale-model-stunt is that most of the fellows who go in for scale designs that are capable of stunt maneuvers feel it unfair that they be classed in the same category as the low-and-slow scalers.

Considering the tremendous amount of effort that goes into the creation of an accurate scale model, these let's-wring-'em-out lads contend that sufficient prizes should be forthcoming to set up two separate events—one for the detailed scale which is required only to qualify in level flight and the other for scale models which can really put on a show.



Two Arden .09's power this P-38 Lightning by Kenneth J. Mundy, Irvington, N. J. Ken says craft does 78 mph on 70′ lines. Maroon and blue.

We feel that event directors should extend themselves a little more (heavenly days, say they, haven't we got enough categories now for which we must scare up prizes!) and encourage the scale model enthusiasts with at least three prize-offering events:

1 Non-flying scale models, built-up or solid; can be capable of flight, but not required to fly in this category.

2. Flying scale models, must demonstrate flying ability. These models are control line or free flight. Must take off by themselves, complete a certain number of laps or remain in the air for a certain length of time.

3. Flying scale stunt models. Control line craft, obviously. Conducted as at the National (*Continued on page* 76)

Medical student Joaquin R. Garcia, Havana, Cuba, dreamed up 80 mph, 28 inch span, McCoy .29 "Mig-E-Mouse." Wing sweeps 35 deg.

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AT-12 Check one: ☐ Veteran ☐ Non-Veteran

Talking it over: L. D. Crisp, Perrysville, Ind., foreground, beside his excellent flying R/C job, chats with Ray Morgan, another contestant at the Nationals. Crisp was 4th, Morgan, 14th.

East "Meeting" Brings 'Em Out

■ Older followers of this Column will remember our write-up around this time last year of an R/C Meeting held in Pennsylvania by the Pittsburgh Flying Circuits Club. It was such a success that another was held over Labor Day weekend this year. In number of ships and flyers on hand, the 1952 Meeting surpassed many of the larger meets, for there were 30 men present ready to fly, several of them with two ships. There was a much larger variety of both planes and radio equipment this year; most unusual ship was Fran McElwee's beautiful low winger, which performed perfectly, even though it had hardly been tested previously.

Another unusual job was an ancient Cavalier Standard that John Worth resurrected for the Meeting, since his regular plane was not in condition. Equipped with an equally ancient Brown Jr. engine with spark ignition, the old veteran flew fine. Jim Schenck had his camera plane in action; this is a Rudderbug with widened fuselage to carry an 8 mm. movie camera. Among other movies shown were some that had been taken from this plane, and many of them were surprisingly good.

Radio equipment was largely 27¼, with 50 and 465 about even, and all types were represented including audio tone. Since this Meeting was the nearest thing we will have this year to an "Eastern R/C Nats," A.T. will carry more data on it in a later issue. Suffice it to say here that this idea of a "meeting"—as opposed to a meet—has proven tremendously popular; we certainly don't expect such affairs to supersede regular meets, but the fact that you can fly as you wish, talk your head off, and try out any equipment or ship you desire—all without the pressure of contest flying—seems to give a big boost to general R/C knowledge and know-how, and helps acquaint the less experienced flyers with the proper techniques.

One odd situation arose that should be mentioned here, so other R/Cers can watch for it. Jim Humphries had brought along (*Continued on page* 82)

FIG. #1

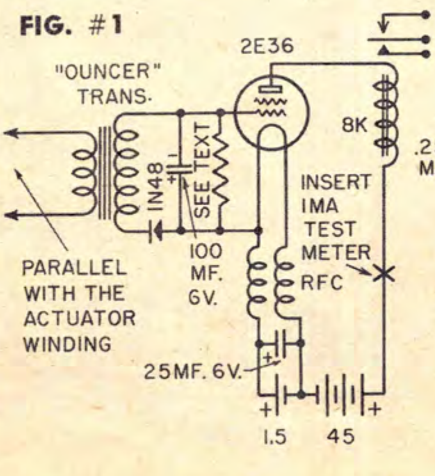
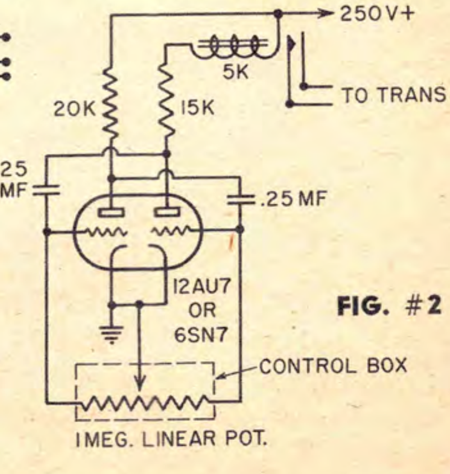
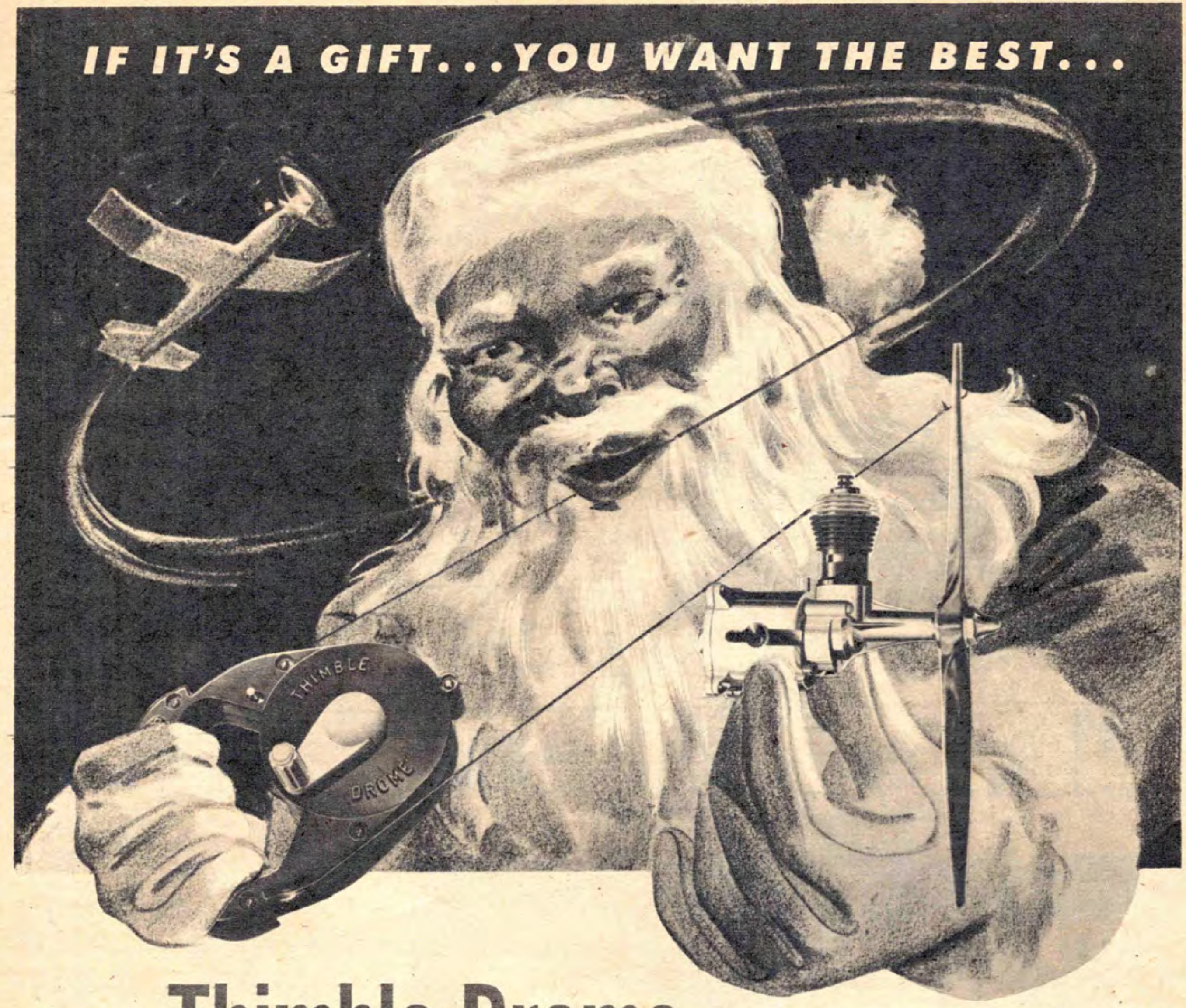


FIG. #2

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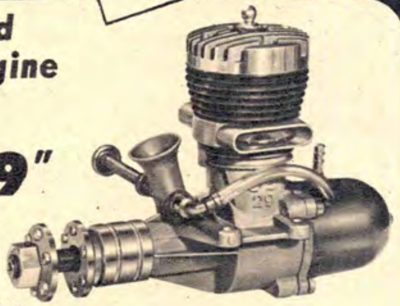

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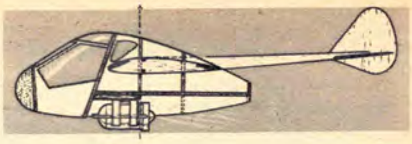
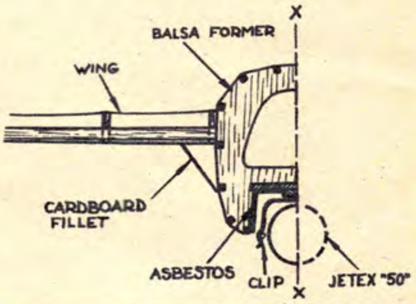


Jet Flying Scale SIPA - 200

■ For devotees of the Jetex power system we suggest the 3-views of the SIPA-200 (page 35, this issue) be doubled to one-half inch to the foot scale size for a Jetex "50" engine—*Bjorn Karlstrom.*



Detroit

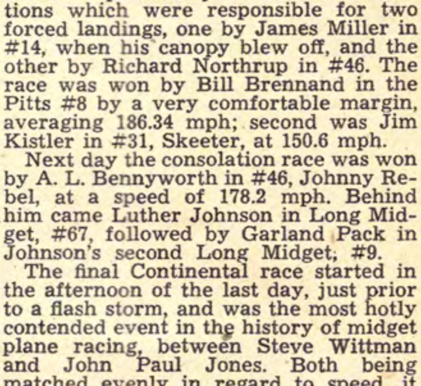
(*Continued from page 26*)

had new experimental propellers of his own design. Other contestants satisfied themselves with new paint jobs and slicker finishes for faster speeds.

First day of the Continental Trophy race started with three elimination heats of 10 laps each. Winner was Steve Wittman with a speed of 198.24 mph. Second was John Paul Jones in Shoestring at 196.31 mph, and third James Wilson in #47 at 178.34 mph. Second heat winner was Bill Falck in Rivets at 194.3 mph, followed by Bill Brennand in the Pitts #8 at 193.55 mph, and Dick Ohm, flying #15, at 178.6 mph. During the third heat a rainstorm hit the field just as the contestants took off and the race was finished in practically instrument conditions which were responsible for two forced landings, one by James Miller in #14, when his canopy blew off, and the other by Richard Northrup in #46. The race was won by Bill Brennand in the Pitts #8 by a very comfortable margin, averaging 186.34 mph; second was Jim Kistler in #31, Skeeter, at 150.6 mph.

Next day the consolation race was won by A. L. Bennyworth in #46, Johnny Rebel, at a speed of 178.2 mph. Behind him came Luther Johnson in Long Midget, #67, followed by Garland Pack in Johnson's second Long Midget, #9.

The final Continental race started in the afternoon of the last day, just prior to a flash storm, and was the most hotly contended event in the history of midget plane racing, between Steve Wittman and John Paul Jones. Both being matched evenly in regard to speed, it was a battle of flying technique. Wittman, master of racing, is extremely difficult to pass as he keeps to the prescribed minimum altitude and almost brushes the pylons on turns. To pass him a pilot



"Before your husband gets home?"

must either fly higher or lower. Flying higher would have required a considerable margin of speed—so Jones picked the lower altitude. At times he flew so low that to the spectators it appeared he was actually touching ground on several occasions. However, his strategy did not work and Wittman won at a speed of 197.29 mph. Jones' speed was 187.17 mph.

For this low flying, Jones was penalized by being moved to the 6th, last, place, which advanced Bill Falck into the second position and Bill Brennand to third place. Upon completion of the race Wittman, who became the permanent possessor of the Continental Trophy, plus a good portion of the swag, announced his retirement from professional racing. One of his planes, Buster, will be placed in the Smithsonian Institution.

In addition to the Continental Trophy race, the civilian show also included aerobatics by Bevo Howard in his Buecker Jungmeister and Marion Cole, present National Aerobatic champion, and performances by three Wasp-powered Stearmans of the Cole Bros. Air Shows, as well as demonstrations of such civilian aircraft as the twin-engine Aero-Commander, Beech Twin Bonanza, Cessnas and the Mooney Mite. The flash storm which hit the airport immediately after the conclusion of the Continental final race cut all activities for the day.

Concurrently with the air show, the Air Force Association and the National Aeronautic Association held their annual conventions.

CONTEST CALENDAR

List meets here! Advise Air Trails 90 days in advance to do the most good for your meet. If any area restrictions on entries, be sure to state. Address of contact man is same city as site of meet unless otherwise specified. Where info on events is furnished these are abbreviated as follows: indoor rubber powered—IR; outdoor rubber powered (unlimited)—ORU; outdoor hand launched gliders—OHLG; indoor gliders—IG; towline gliders—TL; free flight gas—FF; control line speed—SP; control line scale—CLSC; control line stunt—ST; team racing—TR; combat—COM; radio control—RC; rise-off-water free flight—ROW; carrier models—CAR; free flight scale—FFSC; non-flying exhibition scale—NFSC; jet speed—J; controline endurance—CLEND; Wakefield—WAK.

Dec. 14—Bakersfield, Cal., FF record trials. Francis Stewart, 900—21st St.

Dec. 27-30—Orlando, Fla., 3rd Tangerine Internationals. Box 123, Orlando. ORU, WAK, TL, OHLG, FF, RC, SP, Half-A SP, J, ST, CLSC, TR.

Jan. 4—Cleveland, Ohio, Indoor meet. Gliders, pre-fab rubber power, duration, microfilm-covered, paper-covered events. Six age groups. Charles Tracy, Aviation Editor, The Cleveland Press.

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- F - Fighter or Interceptor
- G - Glider
- H - Helicopter
- J - Jet-rotor Helicopter
- L - Liaison
- R - Reconnaissance
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- O - Observation
- P - Patrol
- R - Transport
- S - Anti-Sub
- T - Trainer
- U - Utility

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- D - Douglas
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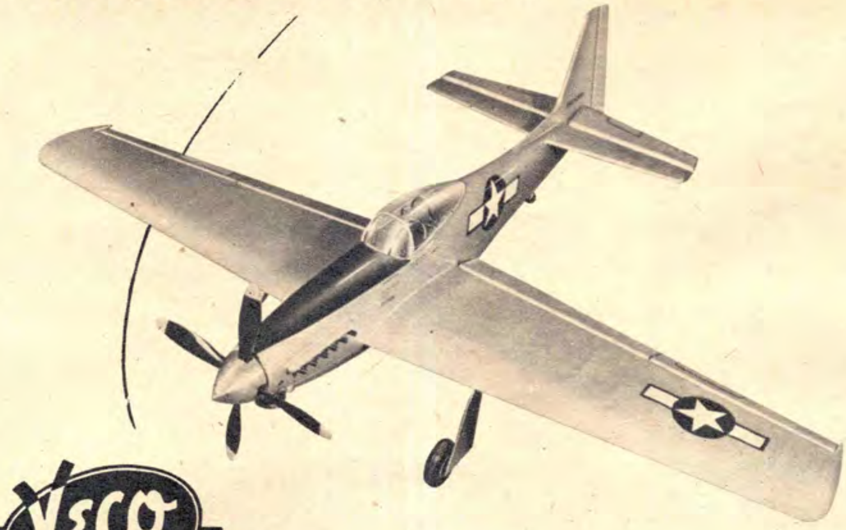

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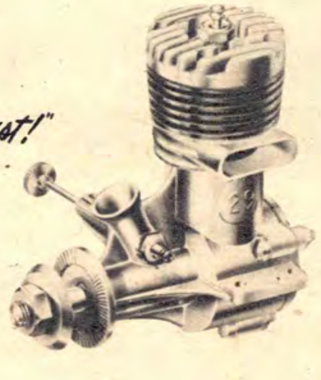

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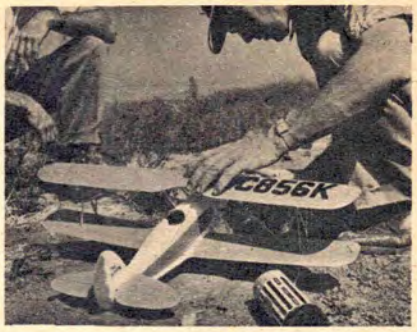
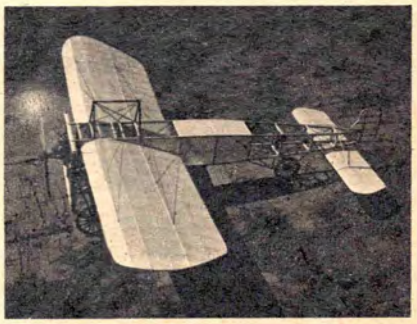


Ced Galloway's magnificent Great Lakes Trainer attracted admiring glances at West Coast Half-A free flight scale meet but had engine trouble.

Western Roundup

Scale Free Flights Perform in Half-A

■ The Inglewood Flight Masters have held their third Annual Half-A flying scale meet, this one the largest yet, even the Nationals' entries being fewer than the 21 at this affair. The meet was handicapped through this large entry list, since judging takes place the day of the contest. The Flight Masters waited and waited for the judges, only one of whom showed up early. They finally enlisted Dick Ealy and Mal Alberts but even so some of the contestants didn't get a chance to fly until 12:30.



Bleriot XI by Don Albinson featured scale materials and scale construction, was considered finest. Aft high angle of attack was bad.

It would not have been a Half-A scale contest without that perennial winner the Piper Super Cruiser of Louis Culber's. He won again with a margin of 55 points over Walt Mooney who again flew his Bleriot IV. A newcomer to the flying scale ranks, Gary Witt, broke a long drought and came up with the first Curtiss Robin to be entered in this event. He was third and can be counted on very strongly in a subsequent contest; his ship was the newest at the meet.

We can vouch for fact he was up all night the night before the contest because he woke us several times with that Moto-tool.

Carole Mooney finally finished her de Havilland Beaver which was real nice indeed, simulated metal covering of planked construction, a rather large model, capable of better flights but plagued with a loose wing which caused violent snap stalls once the model nosed down and picked up speed.

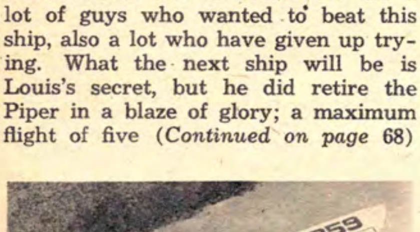
Don Albinson's Bleriot XI was by far the most detailed model entered in the contest. It was constructed entirely of hard wood, the horizontal landing gear struts streamlined in spots like the real ship, all the ribs and spars the real ship had and real wire struts with scale wire springs on the shock-absorbing gear. This ship was high in scale points and but for an aft C.G. and the high angle of attack of the wing would have been a swell flyer. Always something!

Dick Ealy judges Dick Everett's Convair L-13. Was overpowered with Wasp; might have won if stunting was considered in final point standings

There was a very decided number of ships which were scaled up by the contestant some of which flew with slightly enlarged tail surfaces and dihedral angles. This did not seem to hinder them too much in scale points and it did help a lot in flying. The only duplication of ships in the Senior-Open division's 17 entries were two L-5's. In the Junior division the entries were all built from Berkeley scale kits.

It was very interesting to note that except for Frank Pollard's climb to 4th place due to a long flight, all first nine winners finished in the same order as their scale judging points placed them.

Louis Culler has decided to retire his Super Cruiser. After all, four contests and four first places including the Nationals should be enough. The only trouble with this is that there are a lot of guys who wanted to beat this ship, also a lot who have given up trying. What the next ship will be is Louis's secret, but he did retire the Piper in a blaze of glory; a maximum flight of five (*Continued on page* 68)



Walt Mooney's Honey Bee with simulated metal covering. Walt helped build the full-size prototype, then worked on model. Also flew at Nats.

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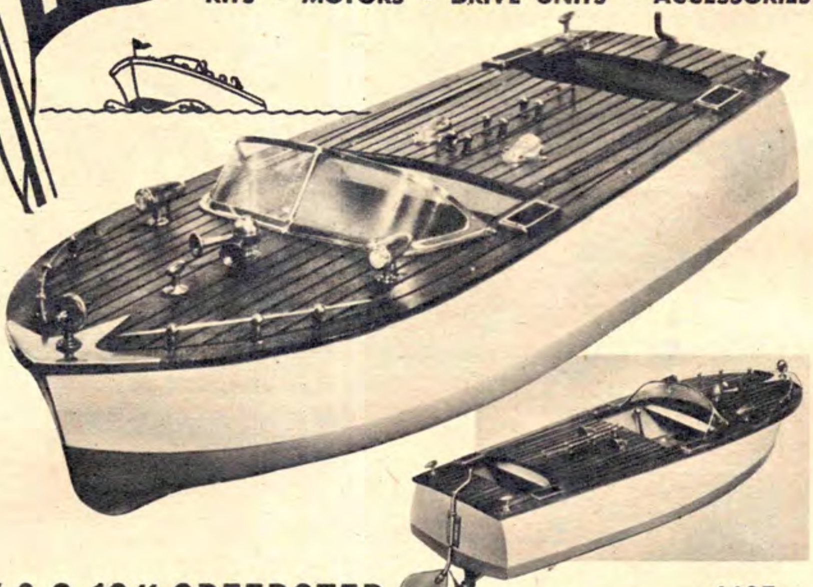

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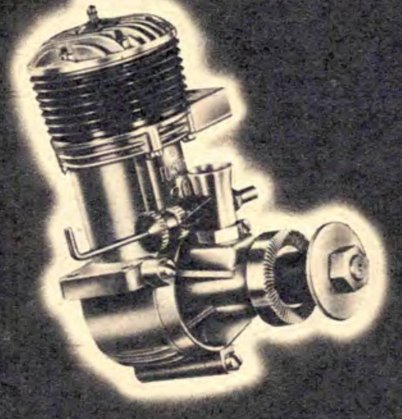
YOU WON'T GO WRONG WITH A

FORSTER "29"

FOR STUNT, FREE FLIGHT AND CONTROL LINE!

"THE STANDARD OF QUALITY IN MODEL ENGINES"



You can't beat them for easy starting and smooth, high speed power! Light weight and economical operation are additional points in their favor. And,—if you want to see truly fine precision workmanship, the very basis of long engine life, then examine the new FORSTER engines! They are tops from every angle! Walter Good officially broke the World's R-C endurance record with a FORSTER "29" powering his plane!

See them at your hobby dealer and judge for yourself! Those who appreciate super quality, quality in every detail, will settle for nothing less than a FORSTER. Write us for free descriptive literature.

MODEL F-29 or MODEL F-31
only $14.25 each

DEALERS:—

IF YOUR LOCAL JOBBER DOES NOT SUPPLY YOU WITH FORSTER ENGINES, WRITE US FOR THE NAME OF YOUR NEAREST AUTHORIZED FORSTER JOBBER WHO CAN AND WILL SUPPLY YOU PROMPTLY.

FORSTER BROTHERS, 82 E. LANARK AVE., LANARK, ILL.

TOPS
IN PERFORMANCE
AND PREFABRICATION

SKYLARK

FLIP-FLAP

WING DINGUS

PRIMER

WING DING

BRITISH SE-5

HOWARD "IKE"

SMALL FRY

SKYLARK
Sensational half-A free flight. 31" span. $2.00

FLIP-FLAP
Revolutionary full stunt job. 24" span. $3.50

WING DINGUS
Experts' choice for stunt, sport. 16" span. $2.25

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Realistic profile for stunt, sport. 18" span. $1.40

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Tops for half-A contest flying. 18" span. $2.25

BRITISH SE-5
Super prefab half-A scale. 17" span. $2.50

HOWARD "IKE"
Howard's famous "Ike" scale racer. 20" span. $3.00

SMALL FRY
Goodyear prototype for half-A team racing. 17½" span. $2.50

add 25c per kit by mail

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727 WESTCHESTER AVENUE
NEW YORK 55, N. Y.

"AT" FORUM

Big Bomber Data . . . I would like, if possible, for you to send me latest dimensions on the B-36, B-47 and the B-52. Our history class is studying about airplanes and I need some information.

Terry Brock, Peru, Ind.

• B-36 has a wing span of 230 ft., length 162 ft., height 46 ft. 9 in. Gross weight 278,000 lbs. It is powered by six Pratt & Whitney piston engines of 3500 hp each and four General Electric J-47 jet engines of 5200 lbs. thrust each. Armament consists of six retractable, remote-controlled gun turrets each mounting twin 20-mm cannon in nose and two 20-mm radar-controlled cannon in tail. Top speed 435 mph at 40,000 ft. The B-47 has a wingspan of 116 ft., length 108 ft., height 28 ft. Gross weight 185,000 lbs. It is powered by six J-47 General Electric jet engines of 5200 lbs. thrust each. Top speed is over 600 mph. Only armament is in the tail, presumably 20-mm radar-controlled guns.

The wingspan of the B-52 is 185 ft.; length is 153 ft., and height, 48 ft. It has eight jet engines.

To Design Models Commercially . . . I have been designing and building U-control model airplanes for some time for myself and my friends. And I am now interested in designing for commercial use. Would you please advise me on the procedure to get me into this field.

L. Z. Wren, Mill Valley, Calif.

• This is a recurring question which we're glad to answer. Model firms secure the services of designers in various ways. One is where the designer is a member of the firm such as Hi Johnson who is a part of the Kenhi concern, Bob Reder who is a principal at Monogram and Carl Goldberg of Top-Flite. In the larger concerns such individuals usually head up a designing staff. Other companies hire model designer-builders on a straight salary basis; many of these chaps also do drafting work.

A still different procedure is where a model kit manufacturer utilizes the services of a professional free-lance designer. The manufacturer wants to bring out a certain scale model. Joe Blow gets the assignment to design the model, build and test it and prepare working drawings for the kit maker. In some instances the manufacturer works with the same freelancer all the time, usually on a straight fee basis and may keep him fairly busy the year around redesigning old models or testing many new ones, of which only a relatively small number are eventually kitted. Some kit companies buy outstanding contest-winning designs outright.

Designing a model for kit production is quite different from creating a single type for contest work. You must understand wood sizes, which ones are most economical to work with and how the manufacturer can economize on cuts and waste. It all adds up to better kits for less money.

The best procedure would be for you to write the various kit manufacturers giving your contest background and enclosing photographs of your outstanding designs. Typewrite your letter for easy reading. Keep it brief and factual. Make sure the photos are clear and do your models justice.

Stinson 105 . . . I am building a power model of the Stinson 105 from a standard British kit. The model has a stringered fuselage, but comparing it with similar types, I think it should possibly be monocoque. Could you please clarify this position for me? And also give me some idea of color scheme and letters of one particular "105."

G. W. Handwick, Birmingham, England

• The Stinson 105 does not have a monocoque fuselage. The structure is tubular, fabric-covered. The registration letters appear on the top of right wing and bottom of the left, also on the rudder. Color scheme of the aircraft in flight is canary yellow with medium blue trim, registration number and insignia.

C-99 . . . I have seen a picture of the Consolidated C-99 with a 230-foot wingspan. I was amazed at the size of this plane and would like some information on it.

John Maccanello, New York, N. Y.

• The Consolidated Vultee C-99 is a transport counterpart of the B-36B and uses the same wing and powerplants. The fuselage accommodates as many as 400 fully armed troops and 100,000 lbs. of freight. Gross weight of the airplane is approximately 300,000 lbs. Span is 230 ft., length 183 ft., height 57 ft.

Three-Views of Stits Jr. . . . Where can I get information about the Stits Jr.? What I am interested in are three-view drawings of this interesting ship.

It struck me as being an interesting experiment for scale control-line modeling.

Gerald E. Gerstner, Buffalo, N. Y.

• Three-views of the Stits Jr. appeared in our May 1951 issue. You can obtain it by sending 35 cents to our Back Copy Dept. Full-size working drawings for .19-.29 C/L model on AT Plan #1251 are 35c.

Helicopter Blade Angles . . . Can you please give me information on proper angle of attack or incidence of rotor blades for towline helicopter? Dihedral?

I am trying to design a "scale" kite helicopter.

L. P. Brown, Chicago, Ill.

• The blades of a helicopter are so hinged that they automatically assume proper dihedral and angle of incidence in flight which vary with path of the blade through the air and depend on whether the blade is advancing or retreating; therefore one cannot give you any actual figures. Suggest that for further information you check "What's the Score on Helicopters?" by Roy Clough in Aug., Sept., Oct. 1952 Air Trails.

Four Questions . . . I have several questions to ask concerning model airplanes. What is the span and length of a Blackburn Skua and Boulton Paul Defiant? Where can I get three-views of Air Force planes? Where can I get British insignia about ¼" to ½" in diameter? What is a color scheme of a Saab 20 and Avro CF-100?

Franklin Crews, Topeka, Kan.

• Boulton Paul Defiant had a wingspan of 39 ft. 6 in., length 30 ft. The Skua's wingspan was 46 ft. 2 in., length 35 ft. 5 in. From time to time, we publish various three-views of Air Force airplanes.

Sorry, we do not know where decals of British aircraft are available. Some of the CF-100's are painted black, others are natural aluminum. The Saab J-29 is natural aluminum color.

Curtiss Helldiver . . . I woud like to know whether the Curtiss Helldiver SB2C is used at all now in the Naval Reserves. When did they stop using the Lockheed P-38 Lightning? When did they junk the 38's, did they leave them out in a desert like the B-17's and B-24's, or use them for scrap metal? Are any of the Grumman F8F Bearcats seeing service in Korea? And are they still in production?

Paul Larcom, Beverly, Mass.

• The SB2C Helldiver is no longer in use in the U.S.; a number of them were given to France. The P-38 went out of service around 1946 and a number of them were sold as surplus—the rest being scrapped. We do not know whether there are any F8F Bearcats in Korea, though doubt it very much, as majority of fighters there are jets.

B-36 Landing Gear . . . A friend and I had an argument over the type of landing gears on the B-36. I think they came first with large single wheel and later changed it to caterpillar type. My friend said he thought they were the same as on the B-29. Will you please straighten this out for us?

Dave Hendrick, Sunflower, Kan.

• Each main landing gear leg of the B-36 is equipped with four wheels, one pair behind the other; the nose gear has two wheels. First B-36 had single large wheel on each leg of main gear. The caterpillar gear was used only for experimental purposes.

Home-made Propellants . . . Could you tell me where I might find information on "home-made" propellants for reaction motors?

E. Menkes, Bedford Hills, N. Y.

• Sorry, we do not know where you can get information on home-made propellants for rocket motors. We presume that you mean solid propellants. Most common liquid propellants are liquid oxygen and alcohol or aniline and nitric acid. These last ones are hypergolic fuels; they ignite on contact with each other, and are dangerous.

Swift Armament . . . Recently I was reading that the Supermarine Swift carries four caliber cannon in the nose, each heavier in caliber than the Hispano 20 mm. I would like to know the exact armament.

Ernest M. Bernal, Jr., San Antonio, Tex.

• As far as we know the Swift's armament consists of four 20-mm cannon in the wings, none in the nose.

Student Pilot License . . . Please send me information about the C.A.A. student pilot's license. I am 13½ years old.

Fred Egenoff, Jr., Philadelphia, Pa.

• You are too young yet to get a student pilot permit. The minimum age is 16. The permit is procurable through your local C.A.A. office, the address of which you can find in the phone book listed under U. S. Government.

How Big Is Big Model? . . . I would like some information concerning flying scale and radio-controlled model aircraft.

What is the largest flying scale model aircraft and was it U-control or free flight?

Dale W. Jones, San Francisco, Calif.

• We have no record of the largest scale model plane ever made, but there are records of scale models of 10 feet span or so. Some of these were free flight and other large ones were control line. The latter were usually multi-engine planes.

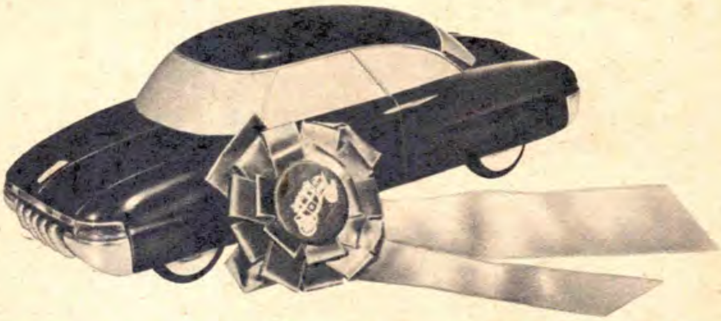
Speed of Lightning . . . Please give me this information on a Lightning P-38: what was the fastest speed ever recorded in a vertical dive; in a horizontal flight?

Bruce Chapham, Woodward, Okla.

• Our information is that the P-38 Lightning was dived to speeds in excess of 500 mph. Its straightaway speed was around 410 mph.

(Continued on page 80)

Boys! BUILD A MODEL CAR LIKE THIS...



WIN $4,000 FOR A COLLEGE CAREER!

THINK OF IT! You can have the thrill of creating your own "dream car" or car of tomorrow" by building a scale model of it, right at home—then enter it in the big Fisher Body Craftsman's Guild Competition and try for one of the many awards to be won!

There are 734 separate awards, worth $65,000—cash awards up to $150 each, trips to the Craftsman's Guild 4-day National Convention with all your expenses paid, and University Scholarships from $1,000 to $4,000 each.

You don't have to make an operating model, just a solid model of wood, plaster or any easily worked, durable material. Work in your own ideas as to fenders, headlights, trim and so on—then paint it to suit your own taste. The Fisher Body Craftsman's Guild will even send you plans and suggestions to get yours started, and show you how to work out your own designs!

Over 115 young men like yourself have won Guild scholarships already—over 10,000 other boys have won awards worth more than $538,000! You have a good chance—you'll have great fun—so send in this coupon today and get started!

734 Awards—worth $65,000

Eight University Scholarships (choose your own university!) worth $1,000 to $4,000 each. ★ All-Expense Trips to the exciting 4-day Guild Convention. ★ Cash and other Awards—up to $150 each. ★ Identical Awards for Junior and Senior Groups. If the son of a General Motors employe wins, his award is duplicated for the next boy.

THE RULES ARE SIMPLE AND EASY

You are eligible to enter the Competition if you live in the United States and if you were at least 12 but not yet 20 on September 1, 1952.

You compete against boys in your own age group, with identical awards for each group—Junior Division (boys 12 through 15) and Senior Division (boys 16 through 19).

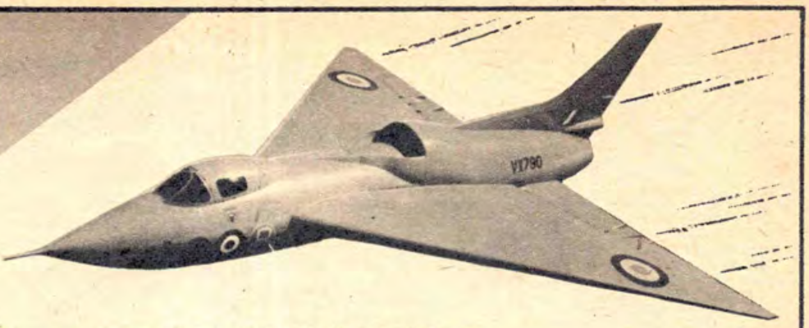
No entry fee—just build a solid model of a car according to your own ideas of design. Full instructions furnished free.

FISHER BODY CRAFTSMAN'S GUILD
General Motors Building, Detroit 2, Michigan

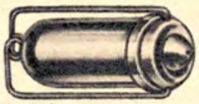
Please enroll me in the Fisher Body Craftsman's Guild Competition for 1953. Also—send me the Craftsman's button and membership card plus complete instructions for building a model. All this will be sent FREE and without obligation to me.

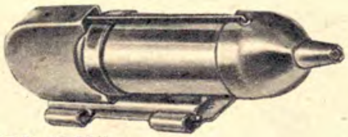
Name__________
Address__________
City and Zone__________State______
I was born on the______day of______19___
Parent or Guardian__________
Name of my school__________
City__________State______
Dept. D-2

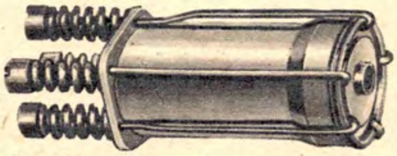
TO MODEL MODERN AIRCRAFT, YOU MUST HAVE MODERN POWER



JETEX JET ENGINES


JETEX "50"


JETEX "150"


JETEX "350"

GIVE YOU THESE FEATURES

- TORQUE FREE THRUST OF TRUE REACTION MOTOR
- LIGHT WEIGHT, PRECISION MADE ALUMINUM PARTS
- LOW COST, SIMPLE, EFFICIENT DESIGN
- NO MOVING PARTS
- SAFE, CLEAN, SCIENTIFIC SOLID FUEL

SPECIFICATIONS	jetex jet engines		
model	50	150	350
ENGINE WEIGHT	.2 OZ.	.73 OZ.	2.5 OZ.
FUEL WEIGHT (min.)	.2 OZ.	.27 OZ.	.4 OZ.
TOTAL WEIGHT	.4 OZ.	1.00 OZ.	2.9 OZ.
① THRUST (max.)	.6 OZ.	1.75 OZ.	4.0 OZ.
DURATION—one charge	12 SEC.	18 SEC.	12 SEC.
DURATION—two charges	—	—	24 SEC.
DURATION three charges	—	—	36 SEC.
TORQUE	NONE	NONE	NONE
EXHAUST VELOCITY	1200 FS	1400 FS	1400 FS
OVERALL LENGTH	1 5/8"	3 1/2"	3 3/4"
MAXIMUM DIAMETER	11/16"	1"	1 3/8"
EFF. WINGSPAN	12-20"	18-36"	32-54"
② ENGINE PRICE	$1.95	$4.95	$8.95
③ FUEL PRICE	$ .65	$ .95	$1.00

NOTE 1 THRUST OF "150" WITH AUGMENTER TUBE: 2.25 OZ.
NOTE 2 INCLUDES: ENGINE, ACCESSORIES, MOUNTING CLIP INSTRUCTIONS, FUEL
NOTE 3 INCLUDES: 10 FUEL CHARGES, IGNITERS, RETAINER SCREEN, SEALING WASHERS

See your Dealer or write: AMERICAN TELASCO Ltd., Huntington, N. Y.

THE SHADOW...

Sponsored every week over the entire Mutual Broadcasting System by Wildroot Company, Inc., makers of Wildroot Cream-Oil, America's most popular hair tonic and Lady Wildroot Shampoo.

Mutual Broadcasting System

Western

(Continued from page 65)

minutes was all it did in this contest (!).

To Bob Moncrieff who does all the work at these contests, orchids; the Flight Masters are mighty lucky to have such a guy in their club.

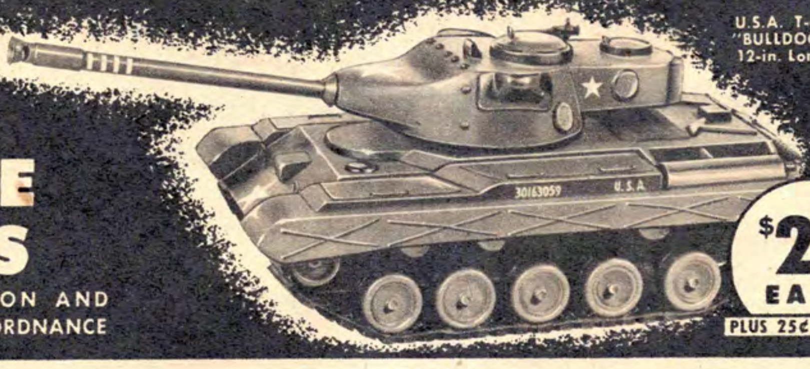
Bob is trying to get the reactions of all modelers in this A/2 scale event and has issued a circular to all addresses he had of fellows who are interested in this phase of modeling. For those of you who are interested they are herewith repeated with Bob's address so that he may correlate these for future contests.

Question Number One: When should the judging be done? (a) In the morning before flying? (b) On the night before? (c) After flying? (d) Combination of (a) and (b) whether or not the same judges are available? Number Two: What is the best division of age classes? (a) Open and Senior combined, and Junior? (b) Junior-Senior combined, and Open? Number Three: What should the engine displacement be? (a) A/2? (b) Under .10 cubic inches? (c) Under .20 cubic inches? (d) Unlimited? . . . Bob Moncrieff, 2108 Santa Fe Avenue, Torrence, California.

One thing that we feel should be included in each entry blank is a questionnaire in regard to the scale details of the models. Some fellows supply very small 3-views of their models which just about makes it impossible for the judges to determine whether or not the ship is to scale or not. Full-size working plans of each model should be required, stating whether or not tail, dihedral etc. are enlarged or to scale. On this form could also be a comment section where the builder could bring the judges' attention to the pertinent details which have been constructed into the model.

At the expense of incurring the wrath of every Wakefield modeler and being called a traitor to the cause or a lot of other nasty things, we would like to bring up an idea

NEW!
BATTLE TANKS
DESIGNED FROM INFORMATION AND PHOTOS SUPPLIED BY U.S. ARMY ORDNANCE



$2.95 EACH
PLUS 25¢ POSTAGE

GERMAN "TIGER" 12-in. Long

RUSSIAN "STALIN" 14½-in. Long

U.S.A. Gen. PATTON 13-in. Long

With the ROTATING "ACTION" GUN TURRET

NOW AVAILABLE: — A complete line of Korean and World War II battle tanks by MERCO. Designed from information supplied by the U.S. Army Ordnance. Simple construction from full-size plans. Build authentic scale models for your den, desk or library. SCALE: 1 inch equals 2¼ feet.

SCALE
AUTHENTIC
EASY-TO-BUILD

FEATURES—COMPLETELY PRE-FABRICATED • DIE-CUT BALSA PARTS • ROTATING TURRET • FORMED BOGIE WHEELS • LIGHTS • DIE-CAST GUNS • METAL AIR VENTS AND GRAB IRONS • PLASTIC PARTS • ALL BALSA BLOCKS CONTOUR SHAPED • SHOVEL AND PICK AXE • COLORED DECALS • FULL-SIZE PLANS AND INSTRUCTIONS

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920-A12 UTICA AVE., BROOKLYN 3, N. Y.

MERCO
REG. U. S. PAT. OFF.

Now Available at All Leading Dealers. If Out of Stock Order Direct.

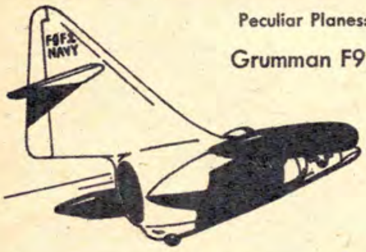
we presented to the leader members at the Annual meeting and which seemed rather well received at the time.

Someone had suggested that we deduct ten cents of each entry fee in every sanctioned contest for the purpose of sending the Wakefield team to compete in the annual contest. This immediately brought spontaneous discontent from other model builders present who do not fly Wakefields. One fellow after another got up and said his piece for his phase of modeling, most of it being why should he support Wakefield models, why not send U-control or power teams? When asked the question why they didn't have a committee to help them, they didn't know. The industry also got in its say and it wasn't too good for the Wakefield team.

When suggested that perhaps we could all work together and compile an International competition fund you could see the ears shoot up all over the place; strange to say, everyone seemed to agree it would be a good idea. Even the industry representatives agreed it would be a good idea with possibly better backing. All that remains now is to select a chairman to gather all the ideas, get all the contests lined up and collect the money.

(Continued on page 72)

Peculiar Planes:
Grumman F9F-2



⑮ Fifteen Famous Fighters ⑮

SOLID SCALE MODEL KITS

Every little detail visible in the actual airplane, every single item that can be reproduced is given to you.

Jam-packed with metal castings (47 in the P-38 Lightning), these kits are the choice of the best model builders everywhere. See them at your dealers — and, although there is no real comparison, *compare them* with any other kit available.

DYNA-MODEL'S 5 NEW JETS
ME-109 MESSERSCHMITT
$2.75

FW-190 Focke Wulf	$2.75	P-51 Mustang	$2.75	P-47 Thunderbolt	$2.95
P-40 Warhawk	2.75	F6F Hellcat	2.75	P-38 Lightning	3.50
F4U Corsair	2.75	F8F Bearcat	2.75	British Spitfire	2.75

DYNA-MODEL'S FIVE NEW JETS

F-80 Shooting Star	$2.75	MIG-15	$2.75
F-84 Thunderjet	2.75	F9F Panther	2.75
F-86 Sabrejet	$2.75		

Ask your dealer for "Dyna-Mo." If he cannot supply you write us direct, enclosing check or money order plus 25¢ for packing and postage—no C. O. D.'s.

DYNA-MODEL PRODUCTS COMPANY
76 SOUTH STREET, OYSTER BAY, NEW YORK

½ A FLYING SCALE MODELS

COMPLETE WITH Redi-Carved & Hollowed Fuselage

P-51, Vo. Corsair, F. W. 190
TYPHOON, ZERO, SPITFIRE

Accurate ½" scale reproductions . . . finest of their kind. Average 18" wingspan. Cut-to-shape wings, stabs, and rudder plus all hardware! Easy to follow super-detailed plans. Can be built without engine for deluxe display models. Kit $2.95 each.

F.W. 190

$2.95 Each

hell razor

Top speed sensation! Magnesium alloy lower fuselage—Light and strong! Many carved parts for quick, easy assembly.

Kits		Castings	
A	$5.95	A-B	$2.75
B	6.50	C-D	2.95
C-D	6.95		

NEW ½A HELL RAZOR—9" span, carved hardwood fuselage. Kit less engine......$2

HELL RAZOR FUEL

Get thrilling championship results! Finest chemicals blended with synthetic oil PLUS anti-foaming agent to give your engine extra pep $1.25 pint

NEW! SQUEEZE BOTTLE FUEL TOTER

handy·boy

Unbreakable plastic, fills tank instantly! Just squeeze—no waste, no mess. Built-in filter; handy attached cap. Use to fill or empty tank — also as pressure tank.

$1.25 EACH

SEE YOUR DEALER OR ORDER DIRECT!

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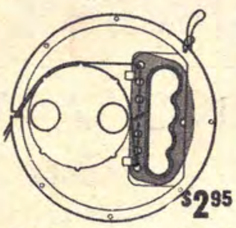


$2.95

Safe 2 way control handle and reel. Light yet rugged! Detachable handle fits into reel for winding, storing lines. Easy to use! Reel diameter 6". Crash-proof plastic molded to hand shape. Balanced thong hole. $2.95 each.

HANDY SAFETY THONG—Sturdy NICKEL PLATED CHAIN automatically neutralizes handle if it slips in use. Prevents plane crashes! All metal — adjustable to wrist size. 75c each.

Radio Control NOTES from Tornado

VALUABLE TIPS

For the beginner making his first attempt at Radio Control flying and those not too familiar with engine and prop combinations.

Using any 48 to 54 inch span—wing loading up to 16 oz. per sq. ft.

ENGINES: OK CUB .099, on this engine it is necessary to reduce the venturi opening by 50 per cent. This will allow better fuel adjustment for hand launching and violent maneuvers. Set needle on rich side of peak so that in climb engine is fully at peak RPM. ARDEN .099 works well as is.

Right thrust your engine 2° to 3°—this has been found ideal.

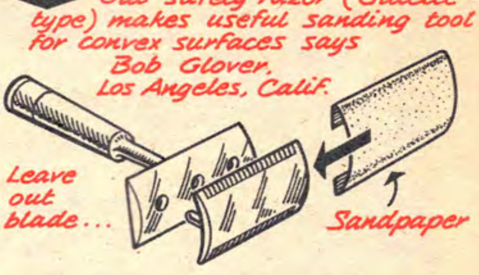
PROPS

FIRST TEST FLIGHT and LOW ALTITUDE FLYING—Use TORNADO R.C. 10 in. dia., 2 in. pitch. This gives a flying speed of 14 mph, 100 ft. altitude gain per min. MANEUVERS and MILD STUNTS—Use TORNADO PLASTICOTE 9 in. dia., 3 in. pitch. This will give a speed of 18 mph, altitude gain 350 ft. per min.
HIGH ALTITUDE and VIOLENT MANEUVERS—Use TORNADO PLASTICOTE 9 in. dia, 4 in. pitch . . . for speed of 20 mph, altitude gain 350 ft. per min.
All speeds and altitude gains are approximate, depending upon engine condition, fuel, wing loading. The use of 1 oz. Castor Oil per pint of packaged fuels is advised to offset extra engine load of large diameter props. Use HOT Glo Plugs.
R. C. PROPS 10 in. dia, 2-3-4 in. pitch, 0.35c ea.
Plasticote Props 9 in. dia, 3-4-5-6-7 in. pitch 0.25c ea.

TORNADO PROPS ARE ALWAYS AVAILABLE AT YOUR DEALER.

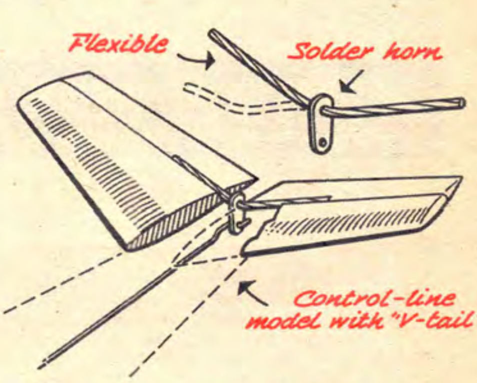
GRISH BROTHERS · ST. JOHN 1, INDIANA

Old safety razor (Gillette type) makes useful sanding tool for convex surfaces says Bob Glover, Los Angeles, Calif.

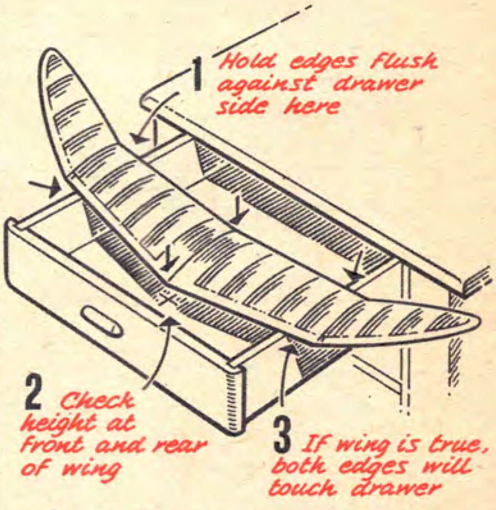


Sketch-book

Have you developed something new in construction, control or flying? Send a rough sketch—we'll redraw it and pay $5 for each accepted.

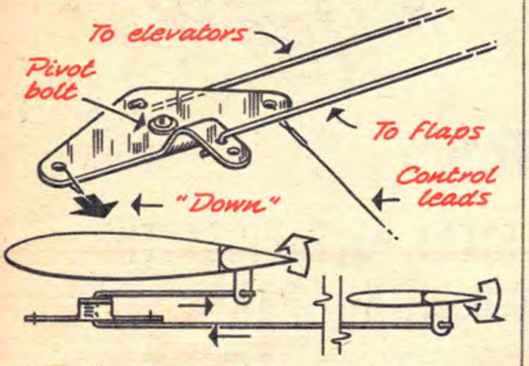


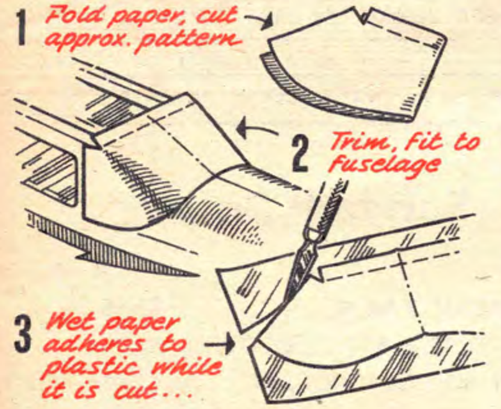
Mike Reilly, Phoenix, Ariz., uses the core of flexible auto speedometer cable for neat linkage of elevators on swept or "V-tail" models —


1 Hold edges flush against drawer side here
2 Check height at front and rear of wing
3 If wing is true, both edges will touch drawer

Use of any handy drawer permits quick & accurate check for wing warps reports David Weissenberger, Los Angeles, Calif.

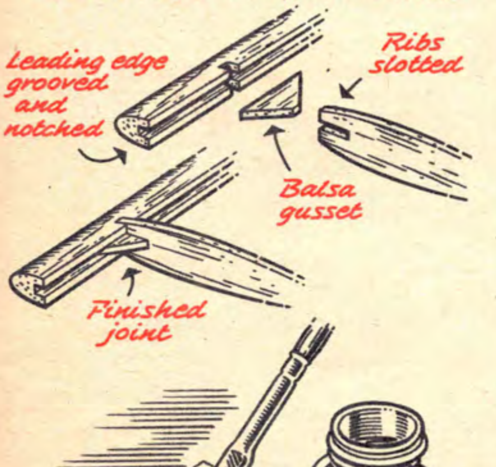
Modified design of bellcrank by Willi Schneider, Nurnberg, Germany, allows neat hookup for control model stunt flaps

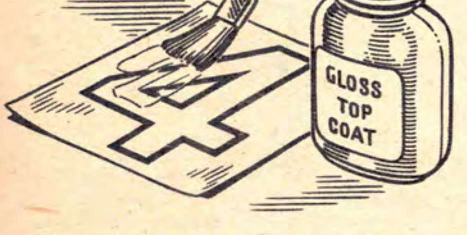



1 Fold paper, cut approx. pattern
2 Trim, fit to fuselage
3 Wet paper adheres to plastic while it is cut...

Knack of fitting cabin windshield is greatly simplified in this procedure devised by Arnold Alpert, Monette, Mo. — (also handy for metal cowls)

Real husky wing structure results with this rib-leading edge reinforcement claims Lt. Ed St.John, Randolph A.F.B., Texas





Old decals which fall apart when moistened can be salvaged by first brushing on "Gloss Top Coat" — Don Sanders, Roanoke, Va.

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HELICOPTERS FOR INDUSTRY INC.
111 Cathedral Ave., Hempstead, New York

(*Continued from page* 69)

It is quite possible to set up eliminations to select fellows to compete in the next year's contests if things get going right away. How these members could be chosen remains to be worked out. It might not be possible to send complete teams, but it might do to send at least two members to each contest. Then there is also the possibility that this Olympics of model building might become a reality and a representative team of all types can be sent. As far as is known now, there are six to a Wakefield team, four to the U-controls, four to glider, and four to free flight.

Our modeling fraternity will have to learn quite a few new rules, build some different models and get some engines to meet their displacement standards. One thing you can be sure of is that competition will be plenty keen, but we should hold our own.

Quite a few of the old-timers who, so they say, are beginning to see the futility in the present duration criterion are racking their brains as to what started duration in the first place. The only logical reason which came out of this bull session was that since full-scale ships at the beginning found it difficult to stay in the air for long periods of time, so model builders did likewise, distance and altitude being very easily eliminated as requiring too much equipment.

When all was said and done and a lot of ideas were suggested, Jim Walker's Planned Flight type of contest seemed to us to be a contest of the future. The more we thought about it the more convinced we became. To put this idea over is and will not be an easy task, since model builders like everyone else don't like to get out of the rut, once in. It will beyond doubt interest a lot of the 90% of the model builders in this country who do not enter duration contests.

In this event of Jim's the contestant sets up his own flight rules. This very closely parallels the flight plan pilots must file prior to departure inasmuch as the contestant must state how many circles his

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Stroke .630"	Stroke .630"
Displacement .199 cubic inch	Displacement .193 cubic inch

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ship will make, how long it will be in the air and where it will land. Points are to be given accordingly in the following manner: ten points for each circle made, five points deducted for each circle over and under; two points for each second in the air up to a specified number with one point deducted for every second over or under this stated time; for landing on your predetermined spot 100 points are awarded with one point deducted for every 5 feet away from your spot. If the contestant lands more than 500 feet from the spot all points are canceled for that flight. This last stops the contestant from thermal flying for very high points.

From a spectator's viewpoint this type meet could be very interesting since it would be possible to hold such contests in small areas and it could be easily followed with a P.A. system. This could prove to be a lot of fun. How about giving it a try?

The proposed International Helicopter contest to be sponsored by Hiller Helicopters has brought some very interesting suggestions and strangely enough all seem to want to discard duration, which is exactly what Ralph Kummer suggested.

Tentative rules, the wording and the point scoring of which must be worked out, will include points for design orginality

(*Continued on page* 75)

". . . Well, that made me mad! So I says, 'Listen, I . . .' "

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Packet #3PP—FIGHTERS: Northrup Black Widow P61; Hawker Hurricane 10; Hawker Tempest 10; Bell Kingcobra P63 9½; Douglas Dauntless SBD5 10½; Bell Airacomet P59A 12½; Messerschmitt 109G16 8½.

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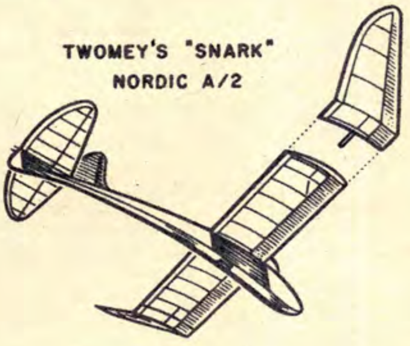
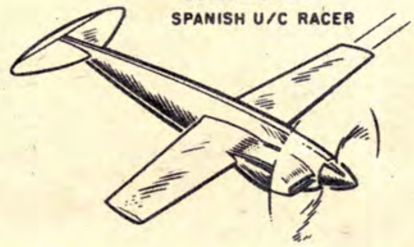
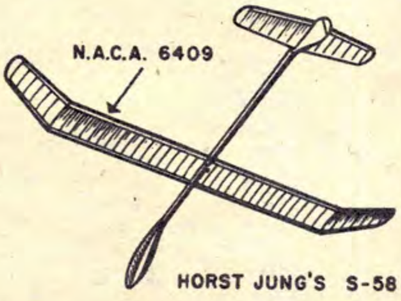
FOREIGN News-Notes

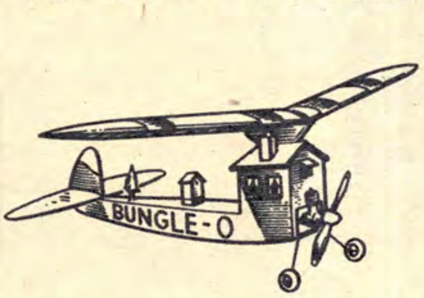




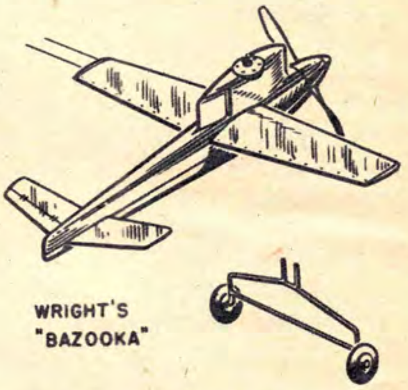
"Snark" towliner, with tail design typically British and wing tips entirely original, is a famous contest winner by Dick Twomey, England. Built to Nordic A/2 specifications, the ship's 412 sq. in. wing spans 63 in., its sharply arched fuselage is 36 in. long, gross weight is 14.6 oz. The swept, dihedraled tips are removable by dowel and paper tube fittings and Scotch Tape. Construction is simple throughout. Tip-up stabilizer dethermalizer and auto-rudder (pivoting tow hook pulls rudder tab over during tow).



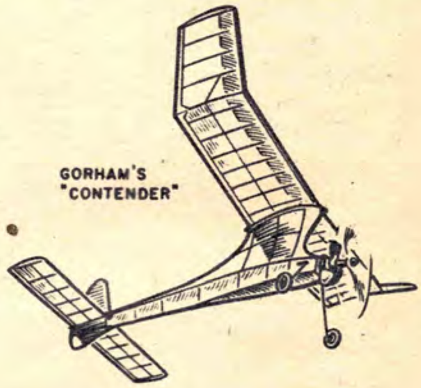
A winner of the 1950 Concours International at Madrid was "El Quisquila," clean-lined sidewinder speedster. One of few Spanish models to hold a world record, the ship was built by modeler Gorgorcena and powered by a glow engine of 2.34 cc displ. Span is approx. 12 In., length 16 in. Its 126 km/hr speed was made at approx. 11,000 rpm.



Horst Jung's somewhat typical German model soarer is the "S-58". Also a Nordic A/2 type, model's primary feature is its dural tube fuselage of approx. 1 in. dia.



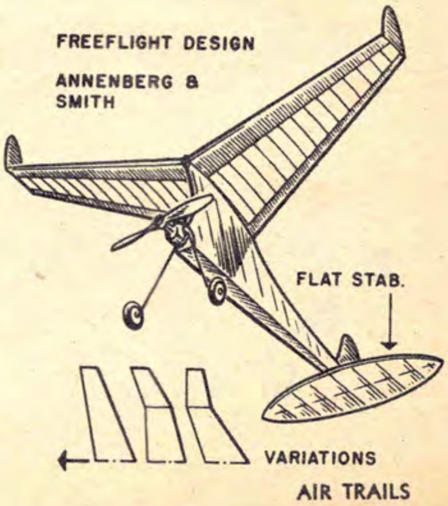
Wing, with flat, long centersection and upturned tips, is of 64 in. span, 6 in. (plus) chord. Overall length is 61 in. The small subrudder is held to be more effective than usual upright type at the slow, flat gliding attitude.



Center of gravity is only 17 percent of chord from *trailing edge*, while towhook is only 23 percent of chord from TE. Nose pod, wing and tail are of balsa and tissue structure.

The "Bungle-O" is truly a "cabin" model, built and flown by some unknown New Zealand model whiz.

Since most speed models have but small variations in appearance, it is not fair to claim this British and FAI (World) record holding model is based on American designs. Developed by Peter Wright, "Bazooka" is clean and fast; engine is a stock American Dooling .29. Recommended fuels and Tornado props from the U. S. A. were employed in setting the speed marks of from 125 to 127 mph. Cowl, which exposes cylinder head, has somewhat unusual side ducting. Model is "bent" to follow circular flight path. Wing and stabilizer are metal, fuselage wood. Span is 15 in., length 16.5 in.



.010 lines permitted for this 16 oz. model.

J. A. Gorham is one of Great Britain's finest modelers and his "Contender" design for free flight is likewise a topnotcher. Flown to victory many times by other modelers as well as Gorham himself, the ship is an example of careful refinement along orthodox lines. With engines of approximately 2.46 cc (mostly diesel), the ship is 36 in. long, spans 47 in. "Contender" features a pop-up stabilizer dethermalizer, removable two-leg gear, and deeply undercambered wing with sharply polyhedraled tips. Fuselage frame follows Shulman's original "Banshee" method of construction.

English design team of Annenberg and Smith recently developed ultra-high performance contest gassies of unusual configuration. With wings swept forward and mounted very high, and with wing tip fins a design feature, they claim greater efficiency by removal of wing from slipstream and resistance to spiraling to make trimming easier. Like Frank Zaic, they employ sharp downthrust so that stabilizer is acted upon by slipstream at an angle to reduce nose-up couple under power. Designers claim slipstream has greater effect than torque. Only evil of twisting slipstream is yaw caused by side blast on fin. Grant's well-known CLA theory is pooh-poohed by these modelers who claim CLA theory can be satisfied by models which prove unstable. Goal in airframe weight was set at 1.75 to 2.25 times weight of complete powerplant.

Peculiar Planes: No. American FJ-1 Fury

Western

(*Continued from page* 73)

with no limitation of type of power or its application.

Stability and control will be a criterion rather than performance. By this it is meant true helicopter type of flying. The models to fly a triangular course, can be with three different attempts in order to demonstrate directional flight, to clear barriers in doing so with extra points to be awarded for load carrying figured on the basis of a power to bare model weight.

The idea behind this contest is of course to foster advanced designing in the helicopter field and to increase the popularity in this type of model. From the standpoint of design and construction it will probably entice a rather limited field, the type which are needed for full-scale aircraft. It is readily acknowledged that this model will be harder to fly than the full-scale ship since good hands-off or pre-set stability will have to be designed into the model.

Contests for these models should be well attended from the spectator's viewpoint since they could be held on football fields or in baseball parks or large parking lots easily accessible. The rules for this contest will be published as soon as the final draft is made and it is quite possible that some of the ideas will be weeded out in order to foster the growth of ideas. Any more suggestions?

There was some regular flying done here in recent weeks. Larry Boyer has the B size Cumulus with a Mac .19 up front in which he has built 10 degrees more incidence in the wing and tail. This ship has

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Radio Control NOTES from Tornado

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For the beginner making his first attempt at Radio Control flying and those not too familiar with engine and prop combinations.

Using any 48 to 54 inch span—wing loading up to 16 oz. per sq. ft.

ENGINES: OK CUB .099, on this engine it is necessary to reduce the venturi opening by 50 per cent. This will allow better fuel adjustment for hand launching and violent maneuvers. Set needle on rich side of peak so that in climb engine is fully at peak RPM. ARDEN .099 works well as is.

Right thrust your engine 2° to 3°—this has been found ideal.

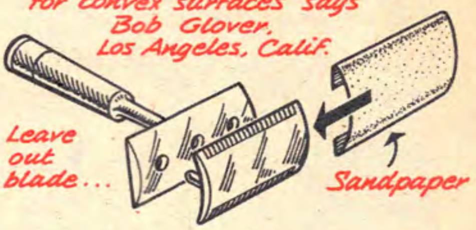
PROPS

FIRST TEST FLIGHT and LOW ALTITUDE FLYING—Use TORNADO R.C. 10 in. dia., 2 in. pitch. This gives a flying speed of 14 mph, 100 ft. altitude gain per min. MANEUVERS and MILD STUNTS—Use TORNADO PLASTICOTE 9 in. dia., 3 in. pitch. This will give a speed of 18 mph, altitude gain 350 ft. per min.
HIGH ALTITUDE and VIOLENT MANEUVERS—Use TORNADO PLASTICOTE 9 in. dia, 4 in. pitch . . . for speed of 20 mph, altitude gain 350 ft. per min. All speeds and altitude gains are approximate, depending upon engine condition, fuel, wing loading. The use of 1 oz. Castor Oil per pint of packaged fuels is advised to offset extra engine load of large diameter props. Use HOT Glo Plugs.
R. C. PROPS 10 in. dia, 2-3-4 in. pitch, 0.35c ea.
Plasticote Props 9 in. dia, 3-4-5-6-7 in. pitch 0.25c ea.

TORNADO PROPS ARE ALWAYS AVAILABLE AT YOUR DEALER.

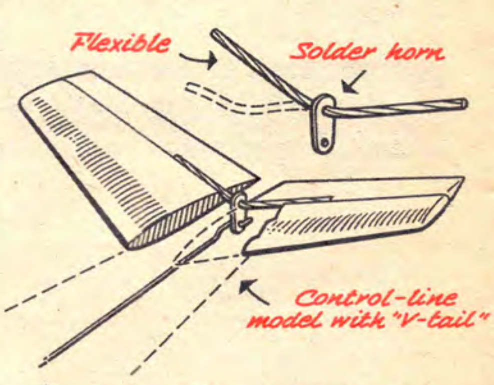
GRISH BROTHERS · ST. JOHN 1, INDIANA

Old safety razor (Gillette type) makes useful sanding tool for convex surfaces says Bob Glover, Los Angeles, Calif.

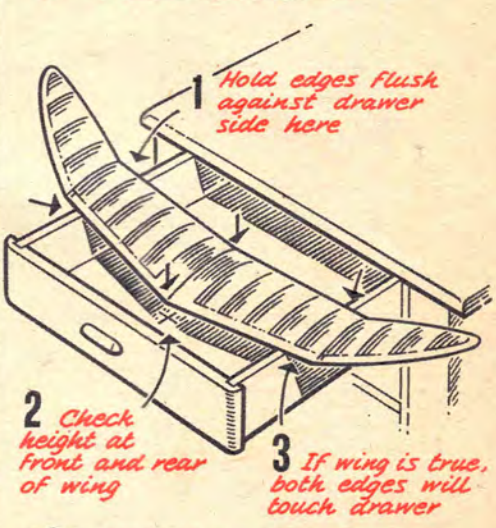


Sketch-book

Have you developed something new in construction, control or flying? Send a rough sketch—we'll redraw it and pay $5 for each accepted.



Mike Reilly, Phoenix, Ariz., uses the core of flexible auto speedometer cable for neat linkage of elevators on swept or "V-tail" models


1 Hold edges flush against drawer side here
2 Check height at front and rear of wing
3 If wing is true, both edges will touch drawer

Use of any handy drawer permits quick & accurate check for wing warps reports David Weissenberger, Los Angeles, Calif.

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meet and 143 at the Plymouth Internats. Of course, some of those were repeaters. Johnny told of one chap who kept coming back complaining about some small thing until he nearly had his engine rebuilt—for free!

At the Nationals Johnny said he'd replace broken parts free of charge. One brilliant boy came up holding a needle valve assembly. Said the rest of the engine was completely demolished. How soon could they wrap a new engine around the needle valve? We didn't get a report on JB's answer to that one.

Lew Mahieu was scheduled to be at Detroit. He works at K&B, you know, and was there last year. Couldn't get away, though, because of the arrival of Daniel Clark Mahieu. Congrats, Poppa.

New Navy Three Views. LCDR Howard B. Eddy, USN, Office of Information, Room 4D718, Pentagon Building, Department of the Navy, Washington 25, D.C., has some grand new detailed three-view scale drawings of Navy aircraft. And they're yours for the asking. Just drop a note to Commander Eddy at the above address! Take your pick and (a word to the wise) write pronto: Grumman F8F-1 Bearcat, Grumman F9F-3 Panther, McDonnell F2H-2 Banshee, Douglas D558-1 Skystreak, Douglas AD-4 Skyraider, North American FJ-1 Fury, North American AJ-1 Savage, North American SNJ-4 Basic Trainer, and the following Chance Vought aircraft—SB2U-1 Vindicator, SBU-1, O2U-1 original Corsair, VE-9 (VE-7), OS2U-1 Kingfisher, F4U-5N Korea Corsair, F7U-3 Cutlass and TBU-1 Sea Wolf.

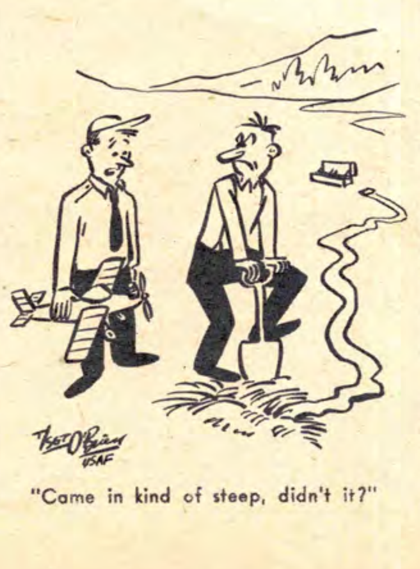
There's a gold mine of accurate three-views there, fellows. We don't know how you could get drawings of any greater authenticity since they were supplied by the manufacturers of the full-size aircraft to the Navy for distribution to serious model builders. Write right now for the ones you can use and tell Commander Eddy that you saw this notice in "AT."

Incidentally, that good gentleman reports the Navy's supply of "Recognition Pictorial Manual, U.S. and Foreign Military Aircraft, World War II" is exhausted. The Navy people sent out thousands of them, but they were surplus to the needs of the Service and there is no chance of a reprint. The availability of this publication was announced in "AT," so we pass along the foregoing info so readers will know it is no longer available, thus saving the Navy countless negative replies.

Group Report. Got some clubs checking in. Apparently most were left out of the last Club Directory because our questionnaire was not returned. Teutopolis MAC, c/o Ralph J. Fulle, Box 15, Teutopolis, Ill. Says Ralph, "We have a gas model club started here and for just a town of mediocre size we are getting a lot of good results."

Bridgeport Aeronuts, c/o Phillip J. D'Ostilio, 47 Cardinal St., Bridgeport, Conn. "Please be advised that the Aeronuts are indeed an active club!" chides Phil.

Minneapolis Dope Fiends, c/o Malcolm Smith, Jr., 4044-44 Ave. South, Minneapolis



"Came in kind of steep, didn't it?"

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6, Minn. "We're once again an active club," advises Mal. "The D.F.'s is one of the few clubs requiring members to prove their skill and enthusiasm by qualification flights—moreover, each member must *requalify* every six months in a different event! All free flight, of course. Either Ralph Costlow or myself can be considered contact man for this group. Ralph's address is 1709 Lagoon Ave."

Pittsfield Model Manglers, c/o Dick Halley, 24 Faulkner Pl., Pittsfield, Mass. Since Dick libels the small bore engines we'd better let him speak for himself. "The club was organized last August," reports Dick. "The pioneers were Leo Koziol (now president), Peter Cullen, Peter Frank and myself (now secretary-treasurer). Our main plan was to stir up some model activity in an unconscious Pittsfield. However, as you know, things become even less conscious as winter draws near. Spring will bring an awakening, surely, for we have big plans: a control line circle at the airport, a sponsor, and more members. The latter must have .19-or-over engines. Everyone likes Half-A's, but they're nearly useless for consistent performance in even a slight breeze.

(Yipes! as Orphan Annie would say.)

"I hope other modelers in my vicinity will take this as a challenge to form a competitor club."

Meet the New England Wakefield Group made up of 15 members whose devotions mainly are to Wakefield flying. Wendall Faunce is president; Lee Renaud, 330 Hyde Park Ave., Boston 30, Mass., is secretary-treasurer.

Change of Pace. You'll pardon us a moment if we talk of automobiles? Antique cars, to be exact. Our good friend A. J. "Tony" Koveleski of the Scranton Hobby Center in Scranton, Pa., and Hudson Miniatures' "Old Timers" car kits has just had a life-long ambition realized in the opening of his "Old Timers Auto Museum." This museum is filled with priceless old cars which Tony has restored to their original splendor. It's located at 2611 Birney Avenue, so if you're ever in the vicinity look up Koveleski's magnificent collection. Open every day, including Sundays and holidays, from 10 a.m. to 10 p.m.

Hudson, incidentally, is going to bring out famous old cars in plastic—completely prefabbed, we understand. Okay, thanks for the time, back now to airplanes.

Bringing Out the Small Fry. We assume you've heard the charge leveled every now and then at the older modelers that they don't show enough consideration for the youthful novice flyer. The Fourth Annual New Jersey State Championship Model Meet sponsored by the N.J. State Exchange Clubs tried to rectify that omission. And with great success, we hear. On the entry blank all contestants over 21 were advised: "Open class contestants must enter a contestant in any one of the junior or senior events to be eligible for prizes in the open events. Bring your son, daughter or one of your neighbor's sons or daughters and enter them in any event and you will be eligible to win prizes in any event that you want to fly in."

Don't let the lingo confuse you. Those over 21 couldn't qualify for a prize unless they'd sponsored the entry of a junior or senior entrant. If this is what we have to do to get the old-timers to lend a hand to the youngsters—well, more power then to the New Jersey Exchangites and Jim Hunt of Union who directed the meet.

Canadian Capers. The results of the Canadian Nationals are in and this means a lot of folks in the Model Aeronautics Association of Canada did a lot of paper work because this was the first "decentralized" Nationals in Canada's history. The results were gratifying for all those who worked so hard on the meet and also for those who participated. Contests were held in Victoria and Vancouver, British Columbia, Windsor and Brantford, Ontario, and in Montreal, Quebec. The clubs in these areas got together and cooperated to make the "Northern Lights" Nationals a real solid success.

Top-place winners and their times were as follows: Class A Speed, Herb Gashgarian, Brantford, 128.57 mph; Class B Speed, Howard Allison, Brantford, 129.50

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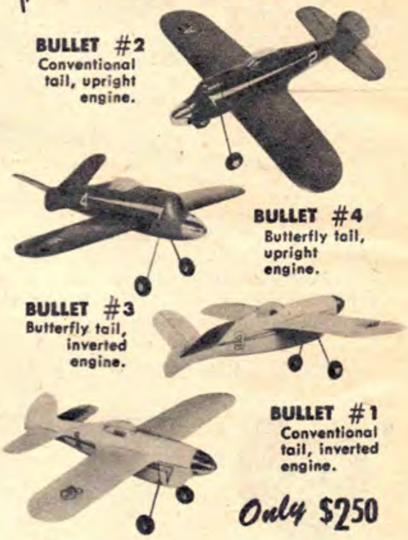
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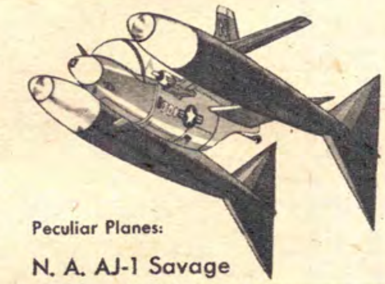
mph; Class C and D Speed, George Swank, Williamsville (NY?), 145.16 mph; Half-A Free Flight, S. Ranta, Toronto, 760.5 sec.; Class A Free Flight, J. Albertson, Arlington, Va., 829.2 sec.; Class B and C Free Flight, Bob Anderson, Mitchell, Ont., 1112.6 sec.; Towline Gliders, Gerald Venier, Toronto, 493 sec.; Unlimited Rubber, Don Kubina, Detroit, 804.4 sec.; Wakefield Models, L. J. Walter, Windsor, 579.6 sec.

In the junior events winners were: Half-A Free Flight, Bob Keppel, Olean, N.Y., 352.4 sec.; Unlimited Rubber, David Cox, Swansea, Ont., 338.9 sec.; and Hand Launched Gliders, R. Copley, Victoria, B. C., 84.8 seconds.

Howard Allison was declared the Grand Champion and Open Class Champ. Canadian readers desirous of affiliating with the MAAC can reach the organization at 545 Josephine Ave., Windsor, Ont.



Peculiar Planes:
N. A. AJ-1 Savage

Why No Jetex Meets? England, France and Canada all have contests for Jetex powered craft, why don't we? The question is posed by Robert Tennenbaum of NYC. Claims he's built practically all the Jetex planes for which plans have been published and with great success.

"At the flying fields they have aroused much interest," sez Bob, "and there is always a crowd around a Jetex flyer. The motors are very flexible power units for scale beauty flying models, contest duration models, helicopters and other unusual types such as flying wings, canards, etc. All these types can be adapted to Jetex for contests. And such competitions could be held closer to the center of town since the objectionable noise of gas engines would not be present.

"In my own neighborhood and in many others this noise element has resulted in the banning of gas model flying. Competition for the jet units could be split into various classes: the '50,' '100' and so on—including one for multi-engine. I know something could be worked out in the way of a Jetex contest here in New York—for example, the *Mirror* meet could add on one. Let's get the ball rolling in New York for Jetex contests in the U.S. Let's hear from you other Jetex fans."

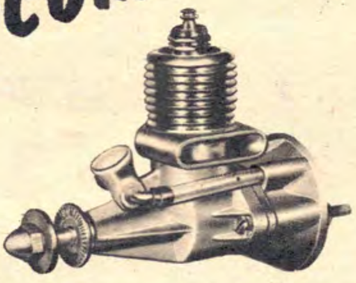
Bob's address is 461 Fort Washington Ave., NYC 33.

He's Got a Point. Wesley M. Dick of Camp Polk, La., brings up an old and sore point with stunt fans—why should other categories fly by engine classes usually for prizes in each class when the poor stunt man gets one little old event for himself? Since it's rules-making time in Washington we think it advisable to pass along Wes' comments as an excellent reminder to the powers-that-be who are currently working on the new model rules.

"The stunt man is being Shanghaied right out of the picture," mutters Mr. Dick. "Take a die-hard free flighter for instance. He can build two or three ships, then go to a contest and fly in up to four events just by changing engines. He can even get into two or three more events with the same ships by adding payload.

"Now let's look at the speed merchants. They can also build four different ships and fly in four different engine classes. But the stunt man! His type of flying requires just as much or more skill than any of the others. And when he goes to a contest what does he find? His event has A, B, C and D size engines combined. Not only

DARE TO COMPARE



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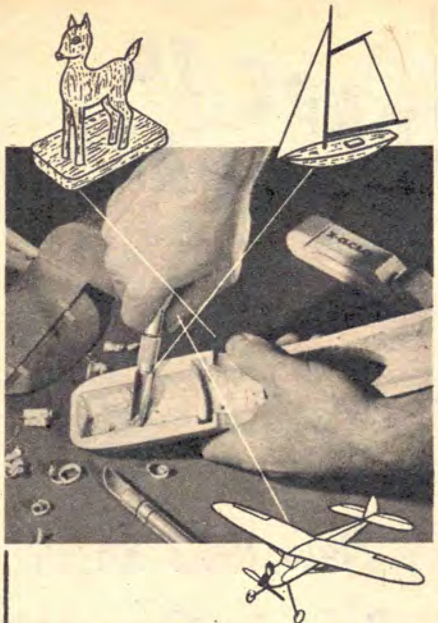

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that, but in many instances even junior, senior and the open age class are combined. Many a good flyer never has a chance at being a meet champ just because he leans toward stunt, which actually does more for spectator interest in the sport than many other events.

"How's about maybe just stealing one event and its trophies from each free flight and speed contest? This would even things up if we then made a breakdown of events like this:

Free Flight—A, B and C-D combined.
Speed—A, B and C-D combined.
Stunt—A, B and C-D combined.

"Then, possibly, break each division down into junior, senior and open classes. This would give the stunt man the same chance to show his abilities in different engine classes as the other flyers. It would also give him a chance at those meet championship trophies making for keener competition and a better meet all 'round."

Will Write. John Jensen, Connecticut Ave., South Norwalk, Conn., would like to find a pen pal in England with interest in Half-A, stunt, small rubber jobs and sport free flight. Tony Haerem of 342 Upper Richmond Rd., London S.W. 14, England, would like to hear from Fred E. Koenig, formerly of Greenbelt, Md. Needs Fred's new address. Tony would also like to hear from any AT readers who are interested in World War II flying scale stuff. He's just completing a B-17A of 36-inch span for four Baby Spits. John Cronin, 122 Washington Ave., Chelsea, Mass., is interested in all phases of aviation and is seeking a pen pal.

Anybody Know Orme? Ted Orme, 5 Stanley St., Chilliwach, B.C., had an idea accepted for Sketchbook. We have a check for him. Can anyone supply his latest address?

—THE DOPESTER

"AT" Forum

(*Continued from page* 67)

MPH of the P-47N . . . The other day I was looking at an article on World War II planes and I saw something about the P-47N. The article said the P-47N had a top speed "of well over 500 M.P.H." This struck me as being a little fantastic so I thought that you might be able to clear me up a little. I believe that the engineers at North American said they thought the P-51 would be about the fastest that a prop plane would be able to fly and I am pretty positive that a Mustang does not have a 500-plus speed range.

Bill Woo, Kansas City, Mo.

● According to our information the top speed of the Republic P-47N was around 450 mph.

C. W. 21 B . . . I recently came across some data and a picture of the Curtiss C.W.21B. This plane interests me and I would like to know if you could give me some of its background as to its use in the war (if any) and its effectiveness and maneuverability.

David Atley, Cleveland, Ohio

● The Curtiss-Wright C.W.21B was a fast climbing interceptor built around 1938. None was ever used in the U.S. but a number were sold to the Royal Dutch Air Force and used in their Pacific island colonies against the Japanese. However, they were outnumbered by the Japanese and were all destroyed or captured. The plane had pretty good maneuverability, was badly under-armed. Armament consisted of two caliber .30 machine guns.

Will .29 Take 4-lb. Job? . . . Could you tell me whether or not my Pierce .29 would take a giant seaplane weighing approx. 4 lbs.? It has almost the power of a .49 engine.

Richard Hill, Beverly Hills, Calif.

● Your .29 engine should fly a 4 lb. model easily. You won't get a screaming contest climb, but adjusting and trimming won't be as difficult either. Radio control ships of 6 ft. span weighing nearly 5 lbs. are being flown today with .23 and .29 engines.

Flaps on F-82 . . . I am going to build the twin Mustang F-82 model and would like to install landing flaps like those described under "Control Devices" in the '51 Model

(*Continued on page* 82)

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552—Half-A F/F scale Curtiss Racer; U/C scale Dart Kitten; Reinhardt's Galloping Comedian .29 to .35 stunt.

ATA 521—.09 Fokker Tripe U/C; B-36 solid; Ole Slippery team racer; Horton t.l. scale glider; Little Senator A/2; Bienenstein's outdoor stick.

ATA 522—.32-.60 AT-6; Bristol Bullet rubber bipe; Dunham's outdoor cabin.

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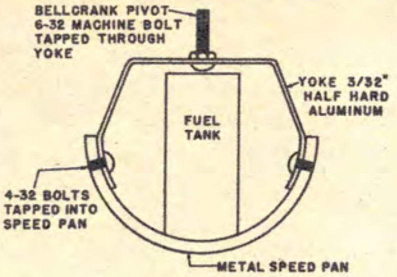
BOTTOM HALF ASSEMBLY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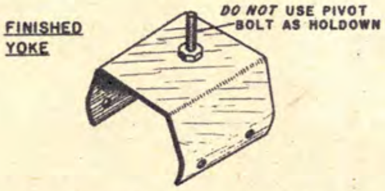
METAL SPEED PAN


FINISHED YOKE
DO NOT USE PIVOT BOLT AS HOLDOWN

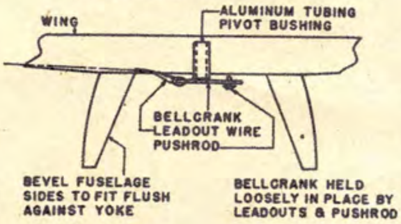
Bellcrank Yoke For Speed Models

■ In the larger speed classes (C&D) most modelers will agree that a ship with bellcrank mounted in the bottom half is much safer where "G" forces reach up over 40 lbs. This ties the weight of engine, tank and speed pan directly to control system. The design, however, is usually limited to a mid-wing configuration, as wing or wing spar is bolted directly to bottom half. The speed flyer who wishes a high or "shoulder" wing design finds it difficult to make controls and bottom half an integral unit.

Illustrated here is a way of directly transmitting "G" forces to control system from bottom half while still keeping advantages of having the bellcrank, leadouts and pushrod in top half. There is no stress exerted on top half at all and therefore all balsa construction may be used without fear of a bellcrank pulling through under a heavy load or hard impact. It is recommended to use a bicycle spoke, mounted from engine backplate, as a front holdown. Run up through engine cowl.

This method has been used successfully over a two-year period in both C and D ships having either wood or metal bottoms. In all cases the top half was all balsa, making a very light plane even using a metal pan.—HAROLD R. STEVENSON.

TOP HALF ASSEMBLY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LEADOUT WIRE
PUSHROD
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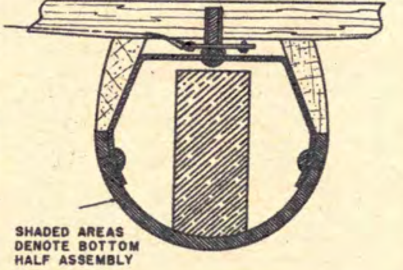
BOTH UNITS ASSEMBLED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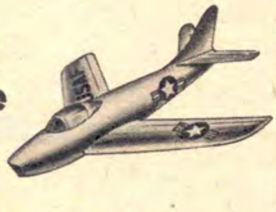

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(*Continued from page* 80)

Annual. Could you please tell me of a good idea for doing this? Because it would mean going through the center section and through the right-hand fuselage and because the flaps are not flush with the fuselage, this makes a problem.

Richard Blackman, Brooklyn, N. Y.

• We would not recommend installing wing flaps on the F-82 model. Experience has shown that flaps used on models create extreme changes of trim and consequent flight direction. This is exactly the reason they are used on stunt models. They help the model loop tighter. The stunt model is usually light and has a lot of elevator, giving a wide range of control. But on a model such as the F-82, which is fairly heavy, the elevator is small and when flaps are lowered the model has a strong nose-down tendency. It is doubtful that the elevators would have enough control to counteract this nose-down tendency and maintain level flight. Of course, you could increase the elevator area, which would help a bit.

It would require considerable experiment and trial and error to get the flaps to work properly. You would doubtlessly have to repair subsequent crack-ups.

#60 Hole in Machine Screw . . . An article of yours said that the pressure jet consisted of a 4-40 flat head (countersunk) machine screw installed through the rear cover with the head on the inside and a nut on the outside to hold it in place. A #60 hole was then drilled through the screw to act as the jet opening. What I would like to know is what size drill would it take to drill that #60 hole? And is there any place I could buy any of these screws already drilled with a #60 hole?

Ralph Scott, Louisville, Ohio

• It is very doubtful that you would be able to purchase a machine screw already drilled. You would be able to buy a machine screw and nut in a local hardware store, and you will have to drill the hole or get a friend to do it. The #60 hole refers to the size of the drill. There is a complete set of wire size drills, these ranging from 1 to 80, and #60 is .040 inches diameter or slightly more than 1/32 inch.

A hardware store or mill supply should have these on hand or could order one for you. Drilling such a small hole by hand usually results in a broken drill, so try to find a friend with a drill press or an electric hand drill and take it very slow with the drilling operation, using some type of oil on the drill.

The Grid System . . . In your wonderful mag I often see plans that need scaling up. The plans say to use the grid system. Would you explain how it is done and what equipment is needed?

Walter Shellhamer, Seattle, Wash.

• The grid system used for scaling up model plans works as follows. The plans have a part drawn with the grid around it. The size of the squares is indicated. To enlarge you draw up a grid of the size indicated. Count squares over and up from the sides to spot location of a line or point and then spot location on your full sized grid. Continue this process to get enough points to form an outline which you sketch in.

Most magazine plans have a scale ruler drawn on them. Copy off this ruler on a piece of paper and use it to find any dimensions needed on the magazine plan. Measure directly on the plan with this minature ruler. Then using these dimensions, lay out your full size plan with the aid of a regular inch ruler.

R/C Roundup

(*Continued from page* 60)

a little portable receiver that he felt might come in handy in running down 27¼ interference. Sure enough, on the second day of flying, one of the users of a Good Bros. receiver reported a strong signal, though a careful check showed that no one at the field had either transmitter or receiver on at the time.

Further snooping with the loop-equipped receiver brought Jim right up to his own transmitter, and he disconnected all batteries just to be sure it was off the air. The strong unknown signal was still evident, and still came from *his* transmitter! This time the antenna was removed—and the air was clear. Analysis showed that the Good Bros. receiver, which works at quite high

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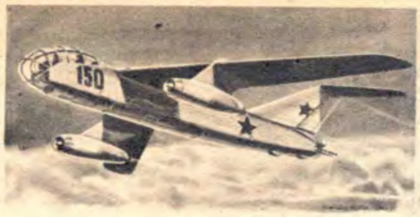

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■ Reported to be a new Russian high-speed tactical bomber designed by a former German engineer, Dr. B. Baade, evident from the typical treatment of the cockpit enclosure. Engines are supposed to develop in excess of 10,000 lbs. thrust each. Speed more than 600 mph. Fuselage is 82 ft. long and equipped with air brakes; wingspan 102 ft. Undercarriage is of bicycle type with auxiliary wheels under nacelles.

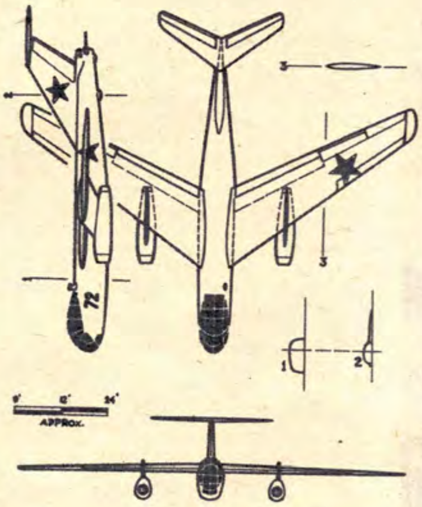

plate current, apparently put out a strong enough signal to excite the crystal in Jim's transmitter, which re-radiated on the same frequency.

Further checks with other single-tube crystal-controlled transmitters showed the same result; the spurious signal could be eliminated by unplugging the crystal. The Good Bros. receiver was the most seriously affected, with other styles of receivers also troubled, but less so. At worst, the interference would cause trouble only for a hundred feet or so, but it was surely a queer one until it was traced.

Contest Results. There were 14 R/C flyers at the Midwestern States Contest in Indianapolis. Joe Hughes reports these winners: 1. Jack Port (Fairborn, O.), 325 sq. in. original with Arden .199, RK61 receiver on 27¼. 2. L. D. Crisp (Perrysille, Ind.), original with Citizen-Ship, rudder and two-speed engine. 3. Edwin Schunke (Indianapolis), Citizen-Ship, rudder and two-speed with Cub .099. All three regular control bands were in use.

Mason City, Iowa: 1. Claude McCullough (Ottumwa), original with 465 mc. and pulse operation for rudder and motor. 2. Paul Jones (Cedar Rapids), Rudderbug with 50 mc. pulse. 3. Ken Saterlee (Waterloo), Rudderbug with 465 mc. to homemade compound esc.

Ithaca, N. Y.: 1. H. deBolt (Williamsville), Live Wire Senior, Torp .19, Citizen-Ship. 2. Geo. Swank (Buffalo), Live Wire with Elfin .09 diesel, two-tube receiver. 3. Art Simmonds (Syracuse), Robot with E.D. .15 diesel, Citizen-Ship.

Toronto (Can.) Area Dealer's Contest: 1. Ken Lopain (London, Ont.), two/three size Rudderbug with McCoy .19, 27¼. 2. H.

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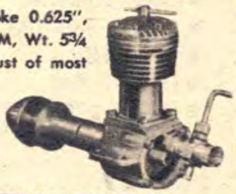

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Invitation R/C Meeting (no contest flying) Syracuse: About 20 flyers attended with much good action; only serious incident of the day was when Art Simmond's Robot flew away with no sign of any control—he accidentally pushed the radio switch off as he launched!

As far as we know, all above meets used regular A.M.A. R/C rules except that at Toronto, where the Flight Pattern was employed—and wasn't found as simple as it looks.

Someone, we believe it may have been one of the Baltimore flyers, has suggested that we use flags of red, white and blue for the frequency bands 27¼ (also the 27 mc. Ham band), 50 mc. and 465 mc. respectively. Seems reasonable and easy to remember—patriotic, too. The AMA will have to settle upon standard flag colors soon, since more and more meets are being run with these three principle frequency ranges; often all three are used at once. The idea is that a flag is raised only when an official flight is under way; if you don't see a flag for *your* frequency—test as much as you wish. Flags should be big, too, at least two feet square, and should have the frequency printed on them.

Clubs and People. Walt Good writes that his club—which now has the official name of the D.C.R.C. (District of Columbia Radio Control Club is our guess) has recently gotten several new members into the air with their first R/C ships. He notes that these newcomers tend to use too little rubber on the wing and stab; after the first sharp turn, the surfaces shift and effective control is lost. We have noticed this with other R/C beginners. Must be their failure to figure on the extra weight of the R/C equipment. Anyhow, even experienced free flighters do it when they start R/C, so keep this point in mind, next time you assist a novice with his maiden R/C flight.

R/C around the vicinity of Clearwater, Fla., is expected to take an upturn as the result of the efforts of Ray Megerian and the owner of the Clearwater Hobby Shop, a recent convert. Interested modelers in the area are urged to get in touch with these enthusiasts. Boats and planes are both under construction.

The Norwood Society of Model Engineers (163 Oakdale Ave., Dedham, Mass.) is picking up steam again after a rather dead summer. Al Trefethen has built a fire under the boys with the result that 10 ships are nearing completion. Among them are Live Wires, Robots, big and little Brigadiers and a pair of "specials." The latter are test ships designed by Lou Andrews, the C/L stunt expert, and Al himself is making one of these; maybe future kit possibilities here.

Technical Topics. From tests we have been able to make, it has been found inadvisable to use the Knights H-173 crystal in the triode-connected 3A4 circuit; Petersen Z5 and Z9 work fine in it. The H-173 should be OK in the 3A4 pentode circuit, however, as the crystal current is much lower here. Also, it will do fine in the A.T. Annual circuit with the 1S4. Tests are being made on various makes of crystals as they become available and we will report on them from time to time.

Incidentally, *never* tune up a crystal oscillator without a load of some kind. That is, always have the antenna connected, or (and this is preferred) use two turns of wire soldered to a #47 pilot lamp. Slip the turns about half way into the ground end of the plate coil, then tune the condenser for the brightest light. Remove this coil and bulb when the antenna is connected. Another way to tune up is to reduce the plate voltage to 90 or even 45 V., but it is best to use full power and the lamp load. Without a load on the plate circuit, the crystal current goes up very high, and damage is likely.

Still another difficulty has appeared, in connection with the crystals in the sealed metal cases, such as the Petersen Z9. Users have found some of them suddenly go dead after they have worked fine for several months. Barring those cases where the crystal has been abused, this trouble has been found to be due to the silver plating

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on the crystal itself going bad. Fortunately, it is easy for the maker to tell from an examination of the rock if it suffers from this fault; all those that do are being replaced free of charge. So, if yours has expired after having worked well, take it back where you purchased it and ask the dealer to return it to the maker for a check.

A few Canadian readers have asked us if there is an arrangement similar to our 27¼ spot for R/C use in their country. A recent letter from the Controller of Telecommunications, Dept. of Transport, Ottawa, informs us that the matter is being considered by this group—which handles amateur licensing matters north of the border—but no decision had been made at the time.

A satisfied user of the "AT" Beep Box is G. G. McGeorge, Munster, Ind., who says he put a tiny ball thrust bearing at each end of the rotating assembly, which reduced friction to practically nothing.

Having wasted about an hour during a recent evening looking for our R/C ship that had come down in tall grass (and which we had not spotted too well), we made a solemn resolve that a top priority job will be the building of a simple receiver to use in locating lost planes. Many R/Cers don't know that their receivers make pretty fair transmitters as well—and the receiver keeps on sending out a signal after it comes down (unless there is a really serious crackup) that would lead you right to it, if you had a little portable receiver to use while retrieving. Will let you know how this comes out—if it proves feasible.

Our plane is equipped with proportional control, and the actuator makes very little noise in operation. However, users of escapement-equipped planes have a built-in noise maker to help them locate the plane. Idea is to have someone at the transmitter punch the key every few seconds while the searching party tries to keep moderately quiet. Plane can often be located by simply homing-in on the noise, as the rudder escapement snaps. This is a good reason to make your escapement just as noisy as possible!

R. K. McGilvary, Mulberry, Fla., wrote that he and a friend recovered a plane this way, they had lost while flying in the fog (!). We have seen the idea used several times, and assumed that it was general practice. A recent letter from Vernon MacNabb, who said he had used the same trick—his ship was in the top of a tall tree—made us conclude that this effective tip should be more widely known.

Bill Effinger tells us they have found a simple solution for making some of those recalcitrant gas tubes work well. He refers to the ones that will give high enough plate current, say around 1.3 ma., but will not drop down on signal. These tubes are generally regarded as "insensitive"; the cure as applied to the Super-Aerotrol receiver is the use of a very small capacity from the plate end of the coil to filament minus. A short length of heavy wire is soldered to the lower lug on the slug-tuned coil; use something around #16 an inch long. Slide a piece of spaghetti over this, then

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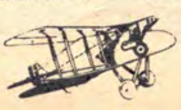

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Advertisers' Index

DECEMBER, 1952

All American Model Motor Exchange 12
Berkeley Models, Inc. 13
Bonner Specialties 16
Consolidated Model Eng. Co. 14
Corr's 13
Dumas Products 14
Dyna-Model Products, Inc. 14
Electronic & Hobbycraft Stores 16
Empire Model Eng. Co. 15
Enterprise Model Aircraft & Supply Co. Inc. 16
Forster Brothers 12
Frontier Mfg. Co. 15
Gernsback Publications 11
Gotham Hobby Corp. 16
Hobby Decal Specialists 12
Joy Products 11
Kenhi Model Products 12
Vernon C. Macnabb 15
Master Modelcraft 15
McManus Novelty Co. 13
Mod-Kraff Co. 14
Model Plastic Products 12
Model Shipways 16
Moody Machine Products Co. Inc. 14
Nassau Watch Co. 13
North American Model Products 13
Polk's Model Craft Hobbies 15
Radio Control Headquarters 11
Sterling Models 11

wind on half a dozen turns of finer wire—about #24 or so. Fire the receiver up and slide the outer turns on or off the heavy wire, till the plate current drop is as desired. The core setting will have to be touched up, of course, for the added capacity changes the tuning a bit.

Bill has tried this stunt—which was dreamed up by Joe Dale—only on Super-Aerotrol receivers with XFG-1 tubes. It seems possible that the same thing will work on most other gas tube sets, however; it is certainly worth a try. The capacity will be different for each tube used, and at most is only an mmf. or so.

We show here a circuit that Paul Johnson has been using with success for operating motor 2-speed from the pulse speed change of his proportional rudder system. To get rudder action, he normally changes pulse length; at low pulse rates, the 2E36 tube conducts normally, and will hold the relay operated. At high rates, the diode rectifies the induced voltage and the tube cuts off. The control operates in less than a second. Grid resistor is adjusted to shift the operating point. The same A and B batteries are used for the 2E36 and the receiver, hence the chokes and condenser in the filament circuit. Plate current is about 1 ma. with low pulse rate, dropping to zero as the pulses are speeded up. A line-to-grid transformer should be ideal at the input.

R.F. Trainer, Silver Spring, Md., has been using an adaptation of the Ruddervator with good results. He has altered a two-arm escapement so that one point catches when the coil is energized and the other when it is not. The rotor is soldered directly to the shaft that carries the Ruddervator vane, back of the rudder. Signal-on will thus hold the vane to left (in his setup) and no-signal to right. For neutral he sends evenly spaced pulses, and proportional control is attained by varying the percentage of on to off. Power to turn the vane comes from the slipstream, of course, and a one-per-second pulse rate has been used.

His pulser unit is of the electronic type, and the circuit is given here for the pulse enthusiasts. This particular circuit is used with a 250 V. plate supply, but lower voltage

ADVERTISERS' INDEX

DECEMBER, 1952

Ace Products 77
Acme Model Eng. Co. 82
A-J Aircraft Co. 53
A & M Super Products 87
All American Model Motor Exchange 77
American Telasco, Ltd. 68
America's Hobby Center, Inc. 6, 7, 8, 9, 86
Mel Anderson Mfg. Co. Inc. 79
Arnold & Fox Engineering Co. 84
Atwood Mfg. .... 3d Cover
Atwood Dist. Co. 62
Austin Craft Co. 84

Berkeley Models, Inc. 88, 89, 90
Buzz & Doug's Hobby Shop 85

Cal-Aero Technical Institute 60
Cameron Precision Eng. Co. 73
Cavacraft Model Airplanes 81
Cheminol Corp. 23
Cleveland Model & Supply Co. 10
Comet Model Hobbycraft, Inc. 5
Consolidated Model Engineering Co. 70
L. M. Cox Mfg. Co., Inc. 61
Craft Model & Hobby Industry 83
Cress Model Shoppe 85
Crosby's Hobby Centre 85

Darwin Model Aircraft Co. 81
Dealers Hobby Supply 87
deBolt Model Engineering Co. 55
Dyna-Model Products, Inc. 69

The E and H Stores 83
Edwards' Hobbies 85
Embry-Riddle School of Aviation 24
Empire Model Eng. Co. 80
Enterprise Model Aircraft & Supply Co., Inc. 77

F-B Model Aircraft 75
Fischer's Hobby Service 85
Fisher Body Div. General Motors Corp. 67
Forster Bros. 66
Francisco Laboratories 86

Grish Bros. 70
Paul K. Guillow 19
Gull Model Airplane Co. 82

Harley Davidson Motor Corp. 62
Haw-Ki Hobby Supply Co. 76
Helicopters for Industry, Inc. 72
Henry Engineering Co. 63
Herkimer Tool & Model Works, Inc. .... Back Cover
Howie's Hobby House 85

Ideal Models 80, 82
Indiana Technical College 85

Jamco (Jamaica Co. Hobbies, Inc.) 85
Johnson Smith & Co. 83
Junior Aeronautical Supply Co. 64

K & B Mfg. Co. .... 2nd Cover
K & O Models, Inc. 65

Leitzsey Model Dist. 81

Master Modelcraft 66
Mercury Model Airplane Co. 69
Miniature Aircraft Corp. 82
Mod-Ad Agency, Inc. 6
Model Craft Hobbies, Ltd. 71
Monarch Model Co., Inc. 17
Monogram Models 21
Mosby Hardware 85
Mutual Broadcasting System 68

National Model Distributors 75
Northeast Hobby Dist. 82
Northrop Aeronautical Institute 22

Olson & Clark Mfg. Co. 78

PDQ Products Co. 72
Pactra Chemical Co. 71
Parks College of Saint Louis University 3
Pico Model Co. 85
Polk's Model Craft Hobbies 74, 78, 83, 87
Plymouth Motor Corp. Div. Chrysler Motor Corp. 50, 51
Precision Model Co. 85

Quaker City Hobby Shop 85

Russell Bros. Products 81

Scientific Model Airplane Co. 58, 59
Shevlin Mfg. Co. 64
Spartan School of Aeronautics 20
Bob Steele Hobby Center 85
Sterling Models 56, 57
Sullivan Products 76
Sunrise Products Co. 83
Syncro Corp. 73

Testor Chemical Co. 46, 47
Top Flite Models, Inc. 76
Sol Toubin's Model Store 85
Tri-State College 81
Trost Modelcraft & Hobbies 85

Western Model Distributors 78

X-Acto Crescent Products Co., Inc. 80

While every precaution is taken to insure accuracy we cannot guarantee against the possibility of an occasional change or omission in the preparation of this December 1952 index.

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may be used by changing the size of the two .25 mf. condensers. It seems likely that a tube such as the 3A5 would do the job, for those who prefer dry battery powered transmitters. To increase pulse rate, lower the value of the two condensers. The control box has only the 1 meg. pot connected by a two wire cable; the third wire can be the shield, if shielded cable is used.

Commercial News. Berkeley Model Supplies (West Hempstead, N.Y.) will soon supply their Super-Aerotrol 27¼ transmitter and receiver in finished form; cost has not been decided yet. This equipment will continue to be sold in kit form, for those who like to build their own. The older DE-Aerotrol kits for 50 mc. are still available.

A note from Rockwood Radio Controls (Box 762, Walnut Creek, Calif.) assures us that the audio tone equipment this concern has built for the 50 mc. band may be changed over to 27¼. Present equipment may be had at extra cost for use on 27¼; 50mc. is the standard frequency for Rockwood apparatus.

Home equipment builders will be interested to learn that Electronic Specialty Supply Co. (56 Lispenard St., New York 13) carries a variety of relays, both sensitive and otherwise, at low prices. They have Sigma 4 and 5 types in various ohmages. Another item of interest is a used 6 V. vibrapack measuring 7" x 5" x 3½", selling complete with rectifier tube for $3.95. Output is 250 V. at 55 ma. This concern will have other items of interest to the R/C fans; write for free bulletin.

Modelers in the vicinity of Fairborn, Ohio, have been getting many R/C components from Ace Model Supply (331 N. Elm St.). Jack Port, the proprietor, is an active builder and R/C flyer who knows what the boys want and can't buy locally. In addition to a large variety of parts, Ace supplies a pre-fab kit for a 27¼ transmitter using a 6C4 tube. It comes complete with tube and crystal, but less case and antenna, for $15. An information sheet on the transmitter is sent out upon request.

A new engine, of great interest to R/C flyers with ships around the 50" size has been announced by Herkimer Tool & Model Works (Herkimer, N. Y.). This is a new size in the U. S.—a .14—and weighs only 2¾ oz. Price is $8.95. The engine resembles other "OK" Cub engines, but is about 3½" high overall.

Experimenters with proportional control which use the Trammell style of actuator are always on the lookout for disc permanent magnets of about 1" diameter and ¼" thick and magnetized across the diameter. Such magnets may be had from some of the steel companies (Indiana Steel Products, Valparaiso, Ind., for example) but the prices are around $5 each. If anyone knows a source of such magnets at a more reasonable price, will they please write us. One supplier, R. Eyrich (1219 W. Meinecke Ave., Milwaukee 6, Wis.), has magnets ¾" dia. x ½" thick at three for $1. These are a bit heavy for the purpose, but guess we can't be too choosy. Same outfit can supply magnets 1" dia. x ½" and 1½" x ½" for heavy duty actuators.

Still another R/C kit has just been announced—the "Live Wire Senior." A product of deBolt Model Engineering Co., Williamsville, N. Y., this is somewhat of an experimental offering; the plane itself is by no means experimental, having won many R/C meets, including the '51 and '52 Canadian Nationals, Tangerine Internationals, and many others. However, a kit of this sort is an expensive proposition to produce, if the job is to be done right. Rather than turn out large quantities of a kit that may not reach top popularity, Dmeco will make limited numbers of the "Senior" to be sold at $12 to $16, final price not yet settled. The plane itself is a 750 sq. in. job that weighs around 3¾ lbs., and is just right for good .19 engines. It looks very much like the regular "Live Wire." The kit will *not* be advertised—but your dealer will have it, or can get it for you. Here's a chance to build a really proven winner.

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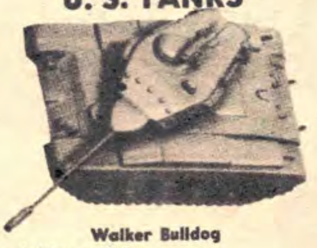

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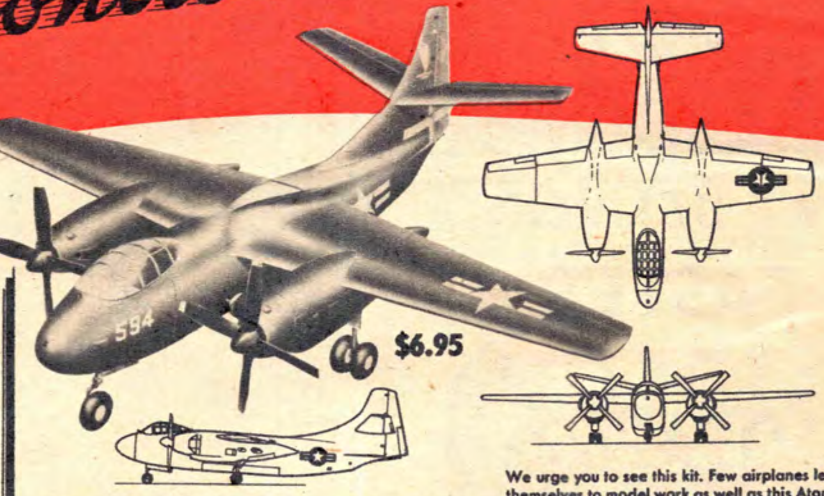

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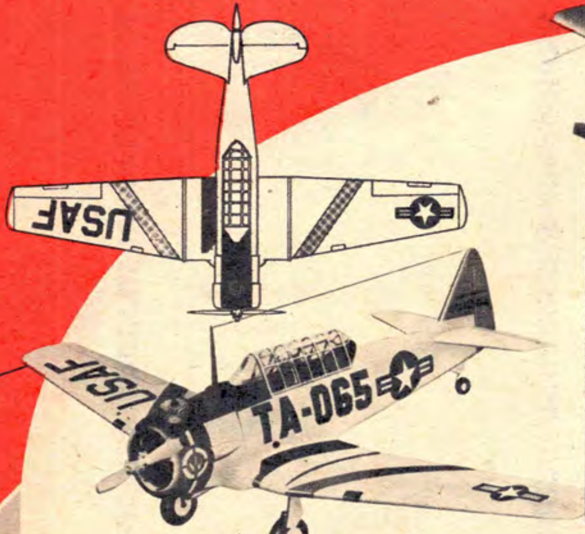
We urge you to see this kit. Few airplanes lend themselves to model work as well as this Atomic Carrier Bomber. It is designed for active flying, with none of the usual frailties. Carved fuselage and nacelles make it very easy to assemble. Climbs on one engine, uses Jetex (internally mounted) for scale effect and reserve power only. Perfect scale throughout!



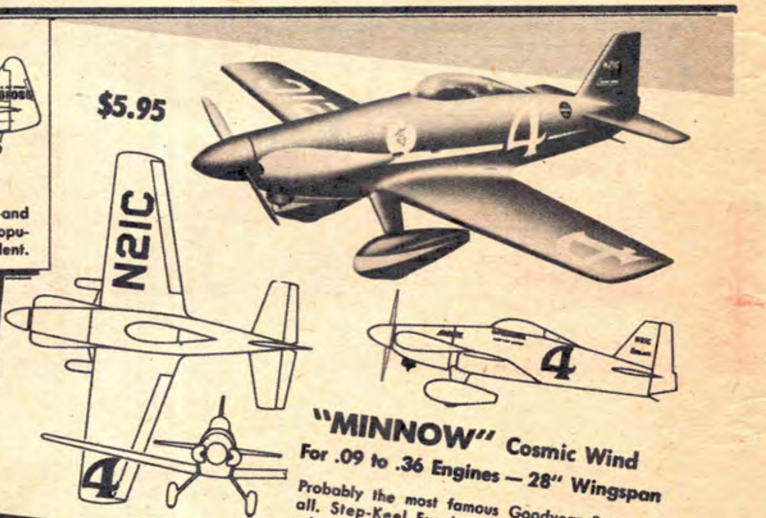
$4.95

North American "AT-6 TEXAN"

(U.S. Navy Designation SNJ-5)

For .19 to .33 Engines — 31" Wingspan

Authentic and complete down to both Army and Navy decals, the AT-6 is one of the most popular kits of all time. Performance is excellent.

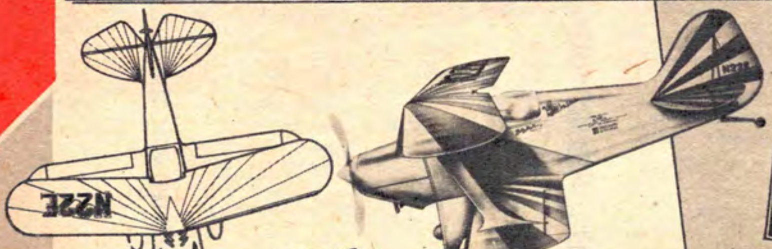


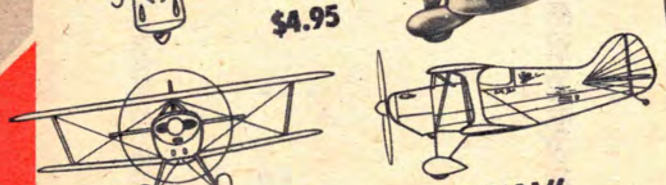
$5.95

"MINNOW" Cosmic Wind

For .09 to .36 Engines — 28" Wingspan

Probably the most famous Goodyear Racer of all. Step-Keel Fuselage, wheel pants, metal spinner, cowl, complete decals, canopy, U-Control.





$4.95

Betty Skelton's "PITT'S SPECIAL"

For .19 to .33 Engines — 25½" Wingspan

This colorful stunting biplane stands apart on any field. Decals include red flare design. Metal cowl, wheel pants, celluloid, etc.

$5.95

North American "T-28"

For .23 to .36 Engines — 30" Wingspan

This new Air Force Trainer aligns itself on the Step-Keel, included in kit. Tri-cycle landing gear, metal cowl, bubble canopy, U-Control.

$5.95

CESSNA "195"

For .19 to .49 Engines — 36" Wingspan

This beautiful lightplane features Step-Keel construction. Formers are positioned by a removable jig. Metal cowl, die-cut parts.

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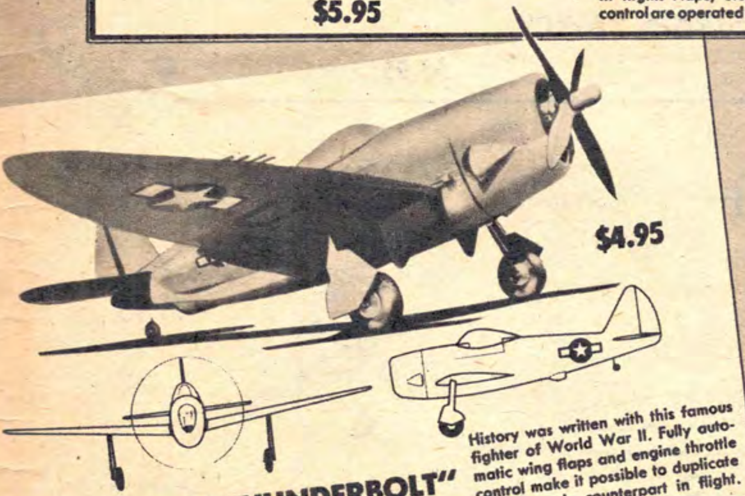
Berkeley's Pre-Fabricated FLYING SCALE FIGHTER Controliners*

Embodying the finest in design, with completeness found only in a Berkeley Kit, these models will satisfy the exacting modeller.

North American "P-51 MUSTANG"
37" Wingspan — For .19 to .36 Engines
$5.95

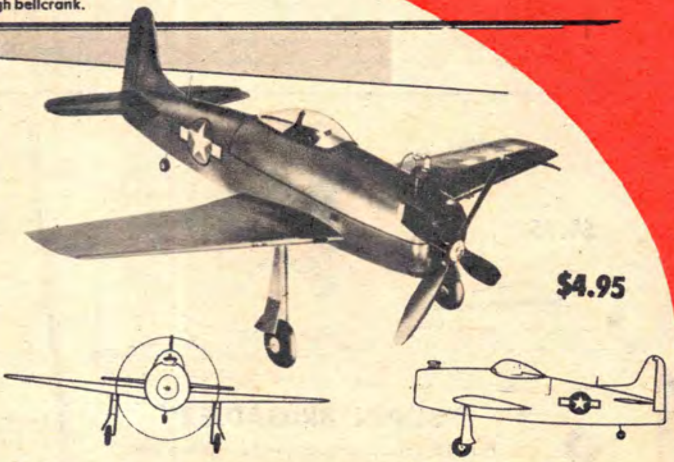
For the detail conscious model builder this kit is a must. Landing gear and tailwheel is retractable and extensible in flight. Flaps, elevator and rudder control are operated through bellcrank.



$4.95

Republic "P-47 THUNDERBOLT"
40¾" Wingspan — For .29 to .65 Engines

History was written with this famous fighter of World War II. Fully automatic wing flaps and engine throttle control make it possible to duplicate the full scale counterpart in flight.



$4.95

Grumann "F-8-F BEARCAT"
35½" Wingspan — For .29 to .65 Engines

Known as one of the fastest climbing fighters of all time, the Bearcat is an excellent subject for Carrier Deck Flying. "Autotrol" rudder operation eliminates slackening control lines.

"CHAMPIONSHIP" "1/2 A" FLYING SCALE MODELS SWEEP NATIONALS AGAIN—

These full One-inch Scale models have been designed for free-flight flying, and have proven themselves on the contest field. .035 to .049 engines, CO_2 or rubber power is suitable. For controline conversion, .049 to .099 engines are advised. Die-cut balsa parts.

Interstate Cadet Wins First in Junior-Senior . . .
Piper Super Cruiser Wins First in Open!

$1.95

CULVER "V"
29" Wingspan

This low-wing sport plane turns in long stable flights. The tricycle landing gear adds realism to landings.

$1.95

INTERSTATE CADET
35" Wingspan

A nine minute single flight at the 1951 Dallas Nationals is the best measure of this model — a 3 time Nationals Winner!

$1.95

PIPER SUPER CRUISER
35½" Wingspan

This model won 1st place in the Open division at the 1952 Los Alimitos Nationals. Plans show pontoon details. Wheels in kit.

$1.95

STINSON SENTINEL "L-5"
33½" Wingspan

This model is a consistant winner at National Meets. It is a commercial version of the Army's "Flying Jeep."

$1.95

STINSON VOYAGER "150"
34" Wingspan

Equipped with wing slots, this authentically detailed model flys with the best. Designs in this series have been chosen for performance.

$1.95

FAIRCHILD 24 "RANCHER"
36½" Wingspan

Largest in the series is the never to be forgotten Fairchild. Stable, strong, detailed, it is ideal for contest experimentation.

$1.95

AERONCA SEDAN
34" Wingspan

Featured as a landplane, plans show pontoon details for those desiring the added thrill of water take-offs. Finished model is really spectacular.

CESSNA "140"
33" Wingspan

$1.95 The clean lines and stable plan form of the Cessna make it ideal for "½ A" or rubber power. Contest potentialities are unlimited.

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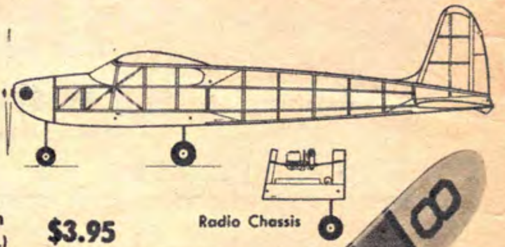
Berkeley's RADIO CONTROL

PLANES... UNITS... ACCESSORIES...

The Radio Units and Kits presented here have each been re-designed three or more times. This permits us to offer you a time-tested, yet timely product. We prefer this to meaningless sensationalism in our advertising.

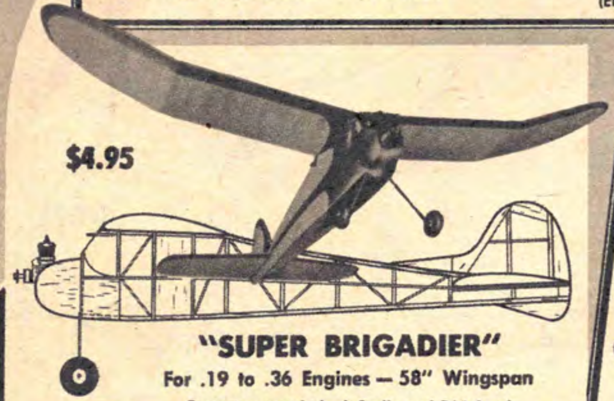

Radio Chassis

Newest in our line of Radio, PAA-Load designs, is this model by Henry Struck. Radio Chassis including batteries is removable as a unit. Split rudder tab for separate trim adjustments. Clip-in prone engine mount, tri-cycle gear.

BOOTSTRAPS "A-RC"

For .09 to .14 Engines — 54" Wingspan
(Empty weight 21 oz. — Radio, Equip., 14 oz. max.)

$3.95

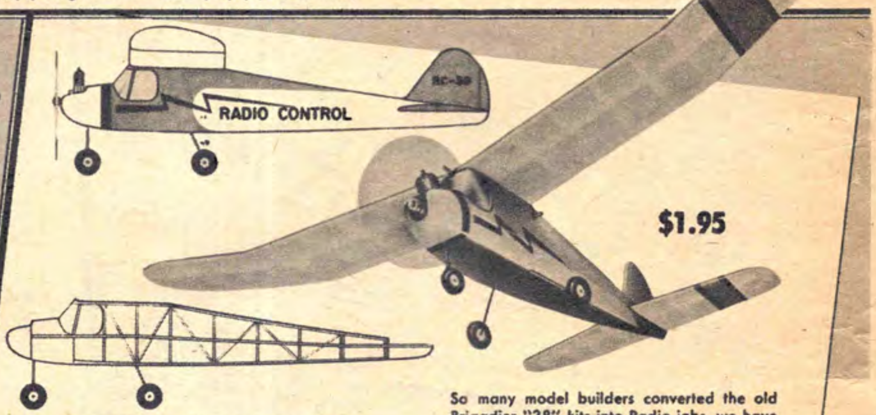


$4.95

"SUPER BRIGADIER"

For .19 to .36 Engines — 58" Wingspan

Contest proven in both Radio and PAA-Load events, this rugged model is easy to build, adjust, and fly. Designed by Henry Struck, pre-fabricated kit includes complete Radio Control and PAA-Load installation drawings.



$1.95

BRIGADIER "RC-38"

For .035 to .099 Engines — 38" Wingspan

So many model builders converted the old Brigadier "38" kits into Radio jobs, we have now re-designed the kit especially for Radio Control or PAA-Load flying. Plans include Radio installation details. Die-cut parts.

"SUPER AEROTROL"

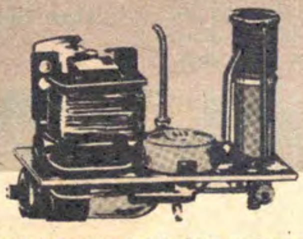
27mc. Crystal Control
Radio Control

Now Available
SUPER AEROTROL ASSEMBLED UNITS...

Super Aerotrol **RECEIVER** **$21.95**

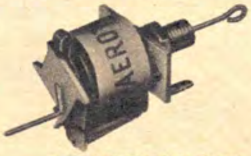
Super Aerotrol **TRANSMITTER** **$27.95**

tubes included



NO OPERATORS LICENSE REQUIRED!
First Transmitter You Can *Build, Operate, Maintain*

Assembled only . . .
$3.95



ESCAPEMENT

Entirely new and different! Rugged yet compact. Single hole mount. Draws 2 - 5 times *less* current. Operated by rubber power, it will deliver at least twice the control operating force of other escapements without "skipping." Completely self-neutralizing, it returns the control to neutral after the signal stops.

MILLIAMETER

O- 3 Milliameter	$3.50
O-50 Milliameter	2.75

Low in cost, manufactured specifically for use with Super Aerotrol. O-3 Milliameter for use with Super Aerotrol Receiver. O-50 Milliameter for use with Super Aerotrol Transmitter.

Ready-to-Assemble Kits...

DUST-CORE TUNED Super Aerotrol RECEIVER

- NEW "locked-channel" dust-core tuning. (We have shipped the sample receivers across the country and to Europe without the frequency changing!
- Light in Weight, 2¾ oz. less batteries.
- Simple super-regenerator circuit, 100% dependable.

Kit includes: Finished, tested sensitive relay; finished dust-core tuner; drilled bakelite base with condensers and eyelets attached; all electrical components, condensers, resistors, coils, chokes and potentiometer; all necessary contacts, and color-coded wiring. Can be assembled in less than two hours. Complete building and operating instructions are included.

Kit (less tube) . . . **$13.95**

Crystal-Controlled Super Aerotrol TRANSMITTER

- Completely portable — Self contained — No separate antenna — No external Batteries! • Operates on 27.255 mc. • Weighs 3.5 lbs.

Kit includes all necessary parts (except tube and batteries): Precision Ground Crystal; Painted Metal Cabinet; Finished Sectional Antenna; stamped and formed chassis with all holes punched; all necessary components, resistors, condensers, coils and chokes; color coded wiring. Can be assembled in less than two hours. Complete building and operating instructions are included —

Kit (less tube) . . . **$21.95**

DE-Aerotrol (for 52 mc.) Complete Kit — **$22.95**
Includes Transmitter, Receiver, Escapement (less batteries and tubes).

XFG-1	Receiver Tube	$3.50
3A5	Transmitter Tube	3.50

SUPER AEROTROL

*Prices and specifications subject to change.

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25¢ Completely revised — up to date!
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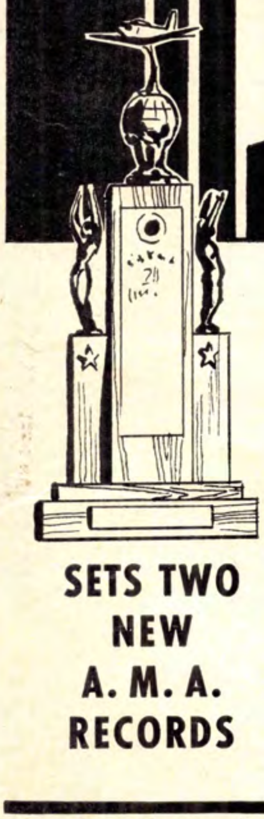
WOW! WASP WINS

READ ALL ABOUT IT!

MAKES CLEAN SWEEP!

ALL ½ A EVENTS!

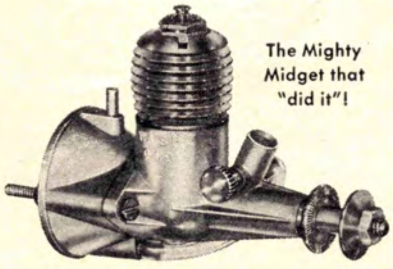


SETS TWO NEW A. M. A. RECORDS

. . . . *at the* 1952 "NATIONALS"

National Model Airplane Championships at Los Alamitos and Santa Ana, Calif.

Yes, WASP .049 engines had a field day and "stole the show" at the official A.M.A sanctioned. 1952 Championships. With contestants from all over the nation competing, WASP-powered planes took first in every 1/2 A event, most of the 2nd's, 3rd's, and all other places—and set 2 new A.M.A. records. This against the "stiffest" possible competition *ever*. Check the partial list below and see for yourself we've proved everything we've been saying about this favorite performance-tested power plant of winning contestants. See your dealer for your WASP *today*—and join the "winners circle" *tomorrow!*



The Mighty Midget that "did it"!

Wasp .049 **DISPLACEMENT**

Here is How WASP-POWERED *Planes Placed:*

FREE FLIGHT GAS — CLASS 1/2 A — OPEN
FIRST six places.

FREE FLIGHT GAS — CLASS 1/2 A — SENIOR
FIRST—plus other places.

FREE FLIGHT GAS — CLASS 1/2 A — JUNIOR
FIRST—plus other places.

FREE FLIGHT GAS — ROW — SENIOR
FIRST place. *New record set.*

FREE FLIGHT GAS — 1/2 A — SCALE
FIRST—plus other places.

U. S. NAVY CARRIER — CONTROL LINE
FIRST place (twin-engine powered).

P. A. A. LOAD — CLASS 1/2 A
FIRST, Third and Fourth.

P. A. A. CLIPPER CARGO — CLASS 1/2 A
FIRST — 17 1/4 ozs. plus 4 oz. dummy. *New record set.*

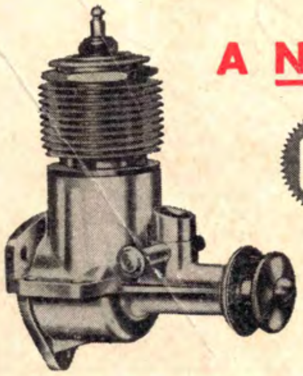
Above is a partial list of known "Winners with Wasp" compiled to the best of our knowledge and belief. Watch for a more complete list in future ads.

TO BE A WINNER

Get a WASP!

ATWOOD MANUFACTURING CO. • PICO, CALIF.

announcing 2 NEW OK CUBS



A NEW DISPLACEMENT!

OK CUB .14

Produced at the request of top plane designers! Opens an entirely new field for the hobbyist. A light-weight engine with the extra power so often needed. For free flight, control line and radio controlled flying.

CLASS A

Displ.	.149	RPM	3,000 to 15,000
Bore	.600	Weight	2¾ oz.
Stroke	.530	Price	only **$8.95**

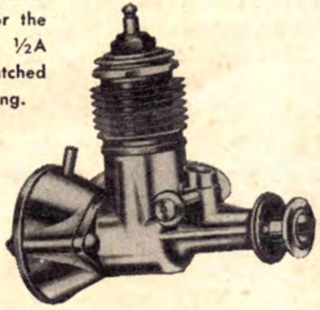
A NEW CUB FOR THE EXPERT!

OK CUB .049X Combination Package

Companion to the famous .049 Cub. Provides higher output due to shorter stroke, larger bore, lighter weight. Designed for the advanced hobbyist. The top performer in the ½A Class. Package includes assembled engine, matched prop, extra rear cover, fuel tank, neoprene tubing.

CLASS ½A

Displ.	.049
Bore	.420
Stroke	.360
RPM	3,000 to 15,000
Price	only **$6.25** Complete



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A Complete Line of PROVEN Miniature Engines and Accessories

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Pint 85¢

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Short or long — 59¢

O. K. CUB .049
POWER KIT
"Assemble-it-Yourself"
$4.95

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O. K. CUB .074
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O. K. CUB .099
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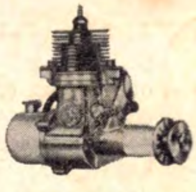
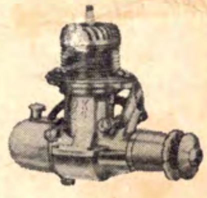


O. K. MOHAWK CHIEF
$9.95



O. K. HOTHEAD
$10.95

O. K. COMBINATION PACKAGES

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CUB .049	$5.75
CUB .074	$6.75
CUB .099	$7.75

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